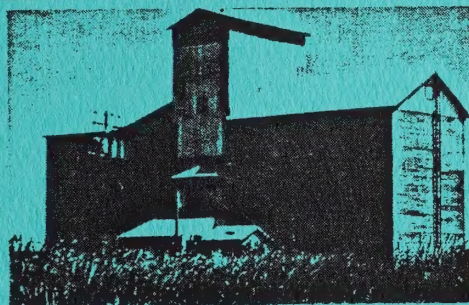




COLUSA COUNTY GENERAL PLAN

FINAL

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AMENDMENTS TO COLUSA COUNTY GENERAL PLAN

Resolution #90-22	Hazardous Waste Management Plan
Resolution #91-55	Rescinded by Judgment of Wiggin v. County of Colusa, Case #18319
Resolution #92-31	Housing Conditions Survey
Resolution #92-78	Transmission Line Element
Resolution #93-22	Revisions to General Plan Land Use Element (AP 13-020-01; 11-280-15, 43, 53; 15-060-80; 15-070-07)
Resolution #93-64	Revision to General Plan Land Use Element (AP #17-030-14, 21)
Resolution #93-90	Amendment and Updating of Housing Element

RESOLUTION NO. 88-7

BOARD OF SUPERVISORS
COUNTY OF COLUSA
CALIFORNIA

A RESOLUTION OF THE COLUSA COUNTY BOARD OF SUPERVISORS CERTIFYING THE GENERAL PLAN ENVIRONMENTAL IMPACT REPORT AS FINAL AND ADOPTING THE 1989 COLUSA COUNTY GENERAL PLAN.

WHEREAS, in accord with California Government Code Section 65080, the Colusa County Board of Supervisors has conducted public hearings on the Colusa County General Plan, its seven mandatory elements, the General Plan Environmental Impact Report (EIR), which include therein all exhibits, text, and graphic materials; and

COLUSA COUNTY GENERAL PLAN

FINAL

and the attached General Plan has been approved and recommended by the Planning Commission; and

WHEREAS, the Planning Commission has recommended the draft General Plan EIR, with all comments and responses to comments, to the Board of Supervisors for final certification; and

Adopted: January 13, 1989

Published: March, 1989

WHEREAS, the Board of Supervisors, through various individuals, agencies, and committees, including the Planning Commission, have been advised of the proposed General Plan and accompanying General Plan EIR as approved and recommended by the Planning Commission; and

WHEREAS, the Board of Supervisors has reviewed these comments and incorporated those changes without substantial modification to the recommendations of the Planning Commission;

Prepared by: General Plan and the General Plan EIR.

**Sedway Cooke Associates
Urban and Environmental Planners**

In association with:

**Doyle Reed, Agricultural Consultant
Loni Reynolds, Agricultural Consultant
Richard Strong, Agricultural Consultant
WESCO, Environmental Consultant**

IT IS RESOLVED that the Board of Supervisors hereby certifies the General Plan, DETERMINED, DRAFTED, and ADOPTED as follows:

1. The Board of Supervisors hereby certifies the General Plan report as final in compliance with the California Government Code Section 65080, as amended, and Colusa County Board of Supervisors Resolution No. 88-7.

2. The Board of Supervisors hereby approves and adopts the 1989 Colusa County General Plan consisting of the seven mandatory elements, all exhibits, text, and graphics.

RESOLUTION NO. 89-3

**BOARD OF SUPERVISORS
COUNTY OF COLUSA
CALIFORNIA**

A RESOLUTION OF THE COLUSA COUNTY BOARD OF SUPERVISORS CERTIFYING THE GENERAL PLAN ENVIRONMENTAL IMPACT REPORT AS FINAL AND ADOPTING THE 1989 COLUSA COUNTY GENERAL PLAN.

WHEREAS, in accord with California Government Code Section 65355, the Colusa County Board of Supervisors has conducted public hearings on the Colusa County General Plan, its seven mandatory elements, the General Plan Environmental Impact Report (EIR), which include therein all exhibits, text, and graphic materials; and

WHEREAS, the Colusa County Planning Commission has conducted extensive public hearings on the General Plan and General Plan EIR and the attached General Plan has been approved and recommended by the Planning Commission; and

WHEREAS, the Planning Commission has recommended the Draft General Plan EIR, with all comments and responses to comments, to the Board of Supervisors for final certification; and

WHEREAS, the public, through various individuals, agencies, and a General Plan Citizens Advisory Committee, have made comments on the proposed General Plan and accompanying General Plan EIR as approved and recommended by the Planning Commission; and

WHEREAS, the Board of Supervisors has reviewed those comments and incorporated those changes without substantial modification to the recommendations of the Planning Commission, into the General Plan and the General Plan EIR.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Colusa FINDS, DETERMINES, ORDERS and HEREBY DECLARES AS FOLLOWS:

1. The Board of Supervisors hereby certifies the General Plan Environmental Impact Report as final in compliance with the California Environmental Quality Act (Public Resources Code Sections 21000, et seq.), the State EIR Guidelines (14 California Administrative Code Sections 15000, et seq.), and Colusa County Board of Supervisors Resolution No. 85-7.

2. The Board of Supervisors hereby approves and adopts the 1989 Colusa County General Plan consisting of the seven mandatory elements, all exhibits, text, and graphics.

3. The adoption of the Colusa County General Plan is in the public interest. The Board of Supervisors finds and declares that the General Plan responds to the public's desires to maintain the agricultural character of Colusa County while allowing reasonable growth during the planning period.

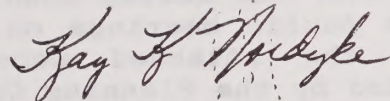
4. The Director of Planning & Building Administration is hereby directed to file a Notice of Determination with the County Clerk & Recorder after adoption of this Resolution, certifying the EIR as final, and adopting the Colusa County General Plan.

PASSED AND ADOPTED by the Board of Supervisors of the County of Colusa, State of California, this 13th day of January, 1989, by the following vote:

AYES: Supervisors William R. Waite, W. D. Mills, David G. Womble and Kay K. Nordyke.

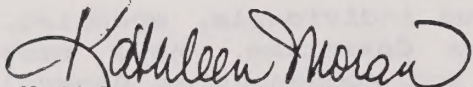
NOES: Supervisor James S. Kalfsbeek.

ABSENT: None.



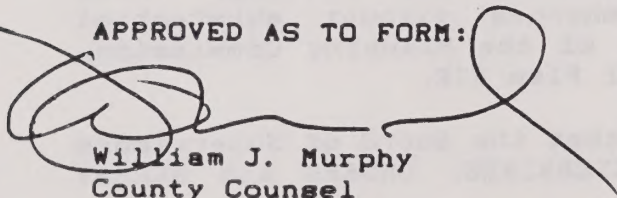
Kay K. Nordyke, Chairman of
the Board of Supervisors

ATTEST:



Kathleen Moran, County Clerk
and Ex-officio Clerk to the
Board of Supervisors

APPROVED AS TO FORM:



William J. Murphy
County Counsel

FILE THIS COPY TO
COPY OF THE RECORD IN THE
TEST: KATHLEEN MORAN

JAN 20 1989

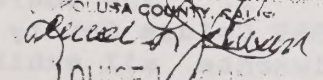
COUNTY CLERK AND EXOFFICIO CLERK
THE BOARD OF SUPERVISORS
COLUSA COUNTY, CALIF.

LOUISE L. JOHNSON

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GENERAL PLAN UPDATE AND REVISION

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Introduction

INTRODUCTION

"To those who have not visited this region for years, the change would be a source of surprise and gratification."

Will Green, 1880
History of Colusa County

WHAT IS THE GENERAL PLAN?

The Colusa County General Plan provides the basis for decisions regarding growth and land development. It is the county's official statement of public policy for the use of private and public land. The plan provides a framework for encouraging economic development while managing growth, conserving agricultural lands, protecting the environment, and preserving the qualities that make Colusa County unique. It reflects the aspirations and values of Colusa County residents regarding the future character and form of their communities.

Perhaps the Plan's most important purpose is to govern the location and intensity of land use throughout Colusa County. By doing so, the plan provides the foundation for evaluating proposed developments or changes in zoning. It also provides guidance for public investment in new facilities such as schools, roads, and water systems. In addition to helping the public sector, the plan provides direction to the private sector by clearly stating the county's expectations for growth and conservation.

State planning law provides a detailed procedure for the adoption of general plans so that individuals may express their values or persuade others to accept or acknowledge their values regarding the community's future. In exchange for this opportunity, all participants share in the responsibility to accept and support the policies which are incorporated in the adopted plan. Once adopted, these policies become the basis for day-to-day decisions by elected officials and county staff.

Because the general plan is long-range (the horizon year for this plan is 2010), it does not always reflect the current situation. The land use "plans" should not be confused with existing land use maps, which show the uses that currently exist on each parcel. The general plan strives to look beyond individual small-scale differences in land use and presents a generalized picture of the dominant character of the area. In other instances, the plan may show the transition of an existing use to a new, different land use. As the name implies, the plan is **general**. It provides broad guidelines for development rather than site-specific instructions on where and how to build.

But while the plan is general, it is also comprehensive. It addresses a wide range of issues that will affect the county's desirability as a place to live and work. In the absence of such a perspective, development proposals would be approved one-by-one, in a piecemeal fashion. Such an approach could lead to serious problems, like overcrowded schools, overtaxed sewer systems, traffic, flooding, and environmental degradation.

The General Plan should not be seen as the "final" statement of the county's vision. As years go by, its population will change, its goals will be redefined, and its physical environment will be altered. At best, the Plan represents a summary of the hopes

for the future at this particular point in time. In order for the plan to be useful, it must be periodically updated to respond to changing priorities and conditions.

BACKGROUND

HOW IS THIS PLAN DIFFERENT FROM OTHERS?

The first General Plan for Colusa County was prepared in 1970. The Land Use, Open Space, and Conservation Elements were updated in 1974, and the Housing Element was updated in 1983 as part of a Tri-County (Colusa, Glenn, Tehama) Plan that was never adopted. A comprehensive update of the plan has not been done since it was written 19 years ago. In the interim years, attitudes and perceptions about the county's future have changed. Demographic and social shifts in the county have altered the way residents view the future. Priorities and expectations for the future have changed.

Now more than ever, Colusa County finds itself in need of an updated general plan. The County is continually buffeted by external changes that are beyond local control. California continues to lead the nation in population and economic growth, and its metropolitan areas continue to swell outward into traditionally rural or agricultural counties. The real estate market is dynamic and often unpredictable; many towns throughout the Central Valley have been transformed from farming centers to commuter suburbs in less than a decade. A new general plan is needed to anticipate how this phenomenon might affect Colusa County in the next two decades and to develop an appropriate response.

At the same time, the counties that have been bypassed by growth during the 1970s and 1980s have found their voices muffled by the urbanizing counties. With a declining percentage of the state's population, the rural counties have been asked to accept a shrinking proportion of the state's financial resources. A plan is needed to set priorities so that the resources that are available can be used judiciously and efficiently. The general plan also is intended to send a unified message to the State and to surrounding jurisdictions regarding the priorities and perspectives of Colusa County residents.

Although the plan has not been substantially updated in 19 years, long-range planning has by no means been "dead" in Colusa County. A number of planning activities have occurred since 1970, particularly during the past five years. Area Plans were prepared for the spheres of influence of Williams and Colusa and for the Stonyford-Lodoga area. A corridor plan was prepared for lands adjoining Interstate 5. Development standards were set for the Lurline Road area and for the 14th Street Area near Colusa. The Department of Planning and Building continues to play an essential role in advising the Planning Commission and Board of Supervisors on development decisions. Individual county departments, such as the school districts and the Environmental Health Department, have on-going long-range planning programs. Wherever possible, these plans and programs have been incorporated into the General Plan.

Most importantly, during the last 18 years, the citizens of Colusa County have played an active role in shaping the decisions that affect the long-range future of their

communities. The participation of the public at town meetings, specialized committee meetings, and various civic organizations during the last two decades have made an important contribution to the quality of life in Colusa County today.

Nonetheless, much of the planning that has occurred since 1970 has been on an "ad hoc" basis. Plans have been prepared in response to a particular crisis such as poor well water quality in a semi-rural area or a sudden large development proposal along the freeway. Community participation has often occurred in response to a singular issue such as future use of the Evans Landfill or development of low-income housing. As these efforts have progressed, the need for a plan which looks at all aspects of life in Colusa County simultaneously has mounted.

One aspect of the new general plan that sets it apart from the planning efforts of the last 18 years is its countywide perspective. Although this document contains plans for individual towns as much as 60 miles apart, it is first and foremost a **county** plan. It balances the priorities of individual communities with one another and considers the welfare of both "town" and "country". It protects the interest of the farmer while recognizing the importance of economic growth and diversification. It does not favor one town over another. It promotes a philosophy that residents live in Colusa County, rather than in Grimes or in Stonyford.

TIME FRAME AND PLAN REVISIONS

Traditionally, general plans projected an ultimate land use pattern and established a date for its achievement. These "end-state" general plans presented many problems, the most significant of which was unresponsiveness to changing conditions and the difficulty of implementation. End-state plans have largely been replaced by plans using frames of 10, 15, or 20-year horizons. The Colusa County General Plan uses a horizon year of 2010. This does not mean that the plan should not be updated for 21 years.

To provide for flexibility and responsiveness to change, the plan requires a comprehensive review and revision, if appropriate, at five-year intervals. The periodic update should allow the plan to continue to maintain a 20-year perspective; thus, if the plan is updated in 1995, it should set 2015 as its horizon year.

It should be emphasized that periodic review of the plan is not synonymous with total overhaul. Once adopted, the Colusa County General Plan establishes a basic policy framework which must be followed over time. The purpose of reviewing the plan every five years is to allow it to adjust to changing conditions, and the availability of more recent planning data, such as the 1990 Census. Only under extraordinary circumstances would complete overhaul be required.

USE OF THE PLAN BY LOCAL CITIZENS

The General Plan is designed to be used by elected and appointed county officials on a daily basis in making decisions with direct or indirect land use implications. It is also to be used by officials and staff of other government agencies--federal, state, and local--and to provide a framework for interjurisdictional coordination of

planning efforts. The Plan is designed for frequent consultation. Failure to use it will quickly cause it to become outdated and irrelevant.

County residents and property owners are expected to be major users of the Plan. Members of these groups may choose to use the Plan as it regards a particular geographic area or as it addresses a particular subject of interest to them. In either instance, the Plan must be used comprehensively and all objectives and policies must be viewed in the context provided by all other relevant objectives and policies.

The General Plan can be regarded on two levels. First, it is the local "constitution"; its policies reflect the local vision for the future and prescribe the means for achieving that vision. Second, it is an educational and informational tool. In many ways, the document is an "encyclopedia" of current and future conditions in Colusa County. The document contains the first comprehensive analysis of land use, community character, transportation, community services, housing, conservation, open space, and public safety in 19 years.

THE PROCESS

The Final General Plan is the culmination of a 2-1/2 year process that began in October, 1986. At that time, the Board of Supervisors established a 60-member General Plan Citizen's Advisory Committee composed of representatives of each community and major interest group in the County. The Committee was divided into five subcommittees--land use, economic development, natural resources, human resources, and community services. Committee and subcommittee meetings were held throughout late 1986 and 1987. The purpose of earlier meetings was to discuss issues and set goals and objectives addressing the issues. Later meetings were generally held to receive feedback on various physical planning concepts or development policies.

At the same time, a Technical Advisory Committee consisting of members of various County Departments was created to oversee the process and provide technical assistance as needed. The consulting firm of Sedway Cooke Associates was retained in October, 1986 to direct the planning program.

A number of vehicles were used to generate interest in the planning process and feedback on different options for the future. A "drawing" contest was conducted in the county's elementary schools to explore youngsters' perspectives on what the county might look like in the year 2010. An exhibit was prepared for the Colusa County Fair showing several different ways the county might grow over the next two decades. Questionnaires were distributed at General Plan Committee meetings revealing the priorities and concerns that county residents shared about the future.

Preliminary land use plans were displayed in every library and post office in the county. Residents of one community even signed the map with an emphatic message that their town should stay exactly as it is today. In October, 1987, two town meetings were held--one in Maxwell and one in Colusa--to provide residents with the opportunity to voice their opinion on proposed land use plans. The meetings were complemented by a thorough four-part series in the Colusa Sun Herald highlighting the key aspects of the land use plan.

The Draft General Plan was released to the public in January, 1988. The Draft EIR was submitted approximately one month later. Over a dozen public hearings were held between February and November, culminating with the adoption of a revised plan by the Planning Commission in November, 1988. In addition, the cities of Colusa and Williams each conducted special meetings to discuss the plan.

Comments on the plan were received through July, 1988, and individual responses were prepared for every comment made. Comments generally concerned the wording of policies, changes to land use designations for individual properties, and questions about the data presented in the plan. The Planning Commission began making its decisions about reworded policies and changed land use designations in September, 1988. Eighty individual requests were considered.

Following the adoption of revised policy statements and land use plans by the Commission, the approved Draft Plan was forwarded to the Colusa County Board Of Supervisors in December, 1988. After two more public hearings, it was adopted on January 13, 1989. This document, the Final Plan, incorporates all changes agreed upon during the public review process.

RELATION TO THE REGULATORY SYSTEM

RELATION TO ZONING

The general plan maps should not be confused with the zoning ordinance maps. A zoning map is a parcel-specific statement of how land may be used in the present and the near future. As a legal instrument, the zoning map has immediate force and effect. In contrast, the general plan is long-range and does not necessarily have a direct and immediate effect on land use. The function of the plan is to provide a policy framework that must be reflected in the zoning ordinance and area plans. The general plan maps are long-range and reflect a vision of what each community will be like in 20 or 25 years. By contrast, the zoning map focuses on the immediate use of the land. The zoning maps should be revised periodically to reflect the long-range uses specified in the plan.

Given this relationship, the zoning map will not and should not be a mirror image of the land use plan. This type of one-to-one correspondence is not required by the consistency requirements discussed below. The plan will not provide automatic, locationally precise answers in all cases and will require interpretation of plan policies in some instances. Looked at another way, the plan may show an ultimate use for a particular area that is different from the existing use and zoning. It is appropriate to let the existing zoning stand to allow for the continuation of the existing use, provided that the zoning is gradually revised over time to phase in the ultimate land use pattern.

RELATION TO SUBDIVISION REGULATIONS

The California Government Code specifies that counties must not approve a proposed subdivision map unless the subdivision, including its design and proposed

improvements, is consistent with the General Plan. In a manner similar to zoning regulations, consistency may be found only when the county has adopted a plan and the proposed subdivision is compatible with the objectives, policies, general land uses, and programs specified in the plan. Counties are required to deny approval of tentative and final maps if it is found that the proposed subdivision is not consistent with the general plan.

The State Code also states that subdivision maps may not be approved unless they are consistent with the county's open space plan. In other words, the subdivision ordinance may require the dedication of parkland or payment of in-lieu fees for parks, but only if the general plan contains language which supports such principles and standards.

RELATIONSHIP TO CAPITAL IMPROVEMENTS

Section 65401 of the California State Code authorizes the Board of Supervisors to prepare and submit lists of all public works projects recommended by them for study or construction during each ensuing year. This requirement also applies to special and school districts whose jurisdictions lie wholly or partially within the county. Upon submittal, each such list must be integrated by the county into a coordinated program which must be submitted to the Planning Commission for review as to its conformity with the General Plan.

Section 65402 requires the Planning Commission to review the conformity of the following actions with applicable elements of the General Plan: (1) acquisition of lands for public purposes; (2) disposition of lands; (3) street vacations; and (4) authorization or construction of public buildings or structures.

ENVIRONMENTAL IMPACT PROCEDURES

An environmental impact report (EIR) must be prepared for the General Plan to determine if the Plan policies and recommendations could result in significant effects to the environment. For projects proposed within the Plan's jurisdiction, Section 15080 of the California Environmental Quality Act (CEQA) guidelines requires that an initial study of the project consider whether the project is compatible with the General Plan. Any inconsistencies between a proposed project and the General Plan must be discussed. The CEQA guidelines note that a project will normally be found to have a significant effect on the environment if it will conflict with "adopted environmental plans and goals of the community where it is located."

BUILDING AND HOUSING CODES

Section 65567 of the State Code provides that building permits must be consistent with the open space plan. The State Housing Law requires the County to adopt regulations imposing substantially the same standards as those contained in various uniform industry codes. This law also imposes special standards, which may be more burdensome than the uniform industry codes, designed to protect against certain

types of hazards and achieve certain resource goals. The County may adopt regulations and standards at variance from those mandated by state law if justified by local conditions. Although not explicitly required by the State Housing Law, the General Plan is an especially appropriate vehicle for documenting such local conditions and specifying the necessary regulatory response in order to justify variances from State law.

OTHER CONSISTENCY REQUIREMENTS

Listed below in capsule form are some other consistency requirements contained in state law which at some future date may apply to Colusa County:

- o Health and Safety Code, Section 33331 requires consistency between the General Plan and any redevelopment plans;
- o Health and Safety Code Section 34326 requires consistency between the General Plan and housing projects;
- o Health and Safety Code 34711 requires consistency between the General Plan and housing for the developmentally, physically, or mentally disabled.
- o Streets and Highway Code Section 32502 requires consistency between the General Plan and parking facilities.

HOW IS THIS DOCUMENT ORGANIZED?

GEOGRAPHIC SCOPE

Colusa County's location relative to the State of California is shown in Figure INTRO-1. The planning area is shown in greater detail in Figure INTRO-2. The map used in Figure INTRO-2 provides the base on which most information in the Plan is presented. The plan covers the 1,153 square miles of Colusa County. Although the incorporated cities of Colusa and Williams (covering about 2 square miles) are outside the plan's jurisdiction, many of the policies and programs embodied in the plan will have a direct effect on these communities. Consistency between their general plans and the county plan is one of this document's foremost objectives.

CONTENT OF THE PLAN

The General Plan is organized into 10 chapters. Following the **Introduction**, the plan presents the statement of **Goals and Objectives** developed by members of the General Plan Committee. The following eight chapters are referred to as "elements", with each element corresponding to a particular topic such as land use or circulation. Each element contains a profile of existing conditions, an analysis of future conditions, and a series of policies which reflect goals and objectives.

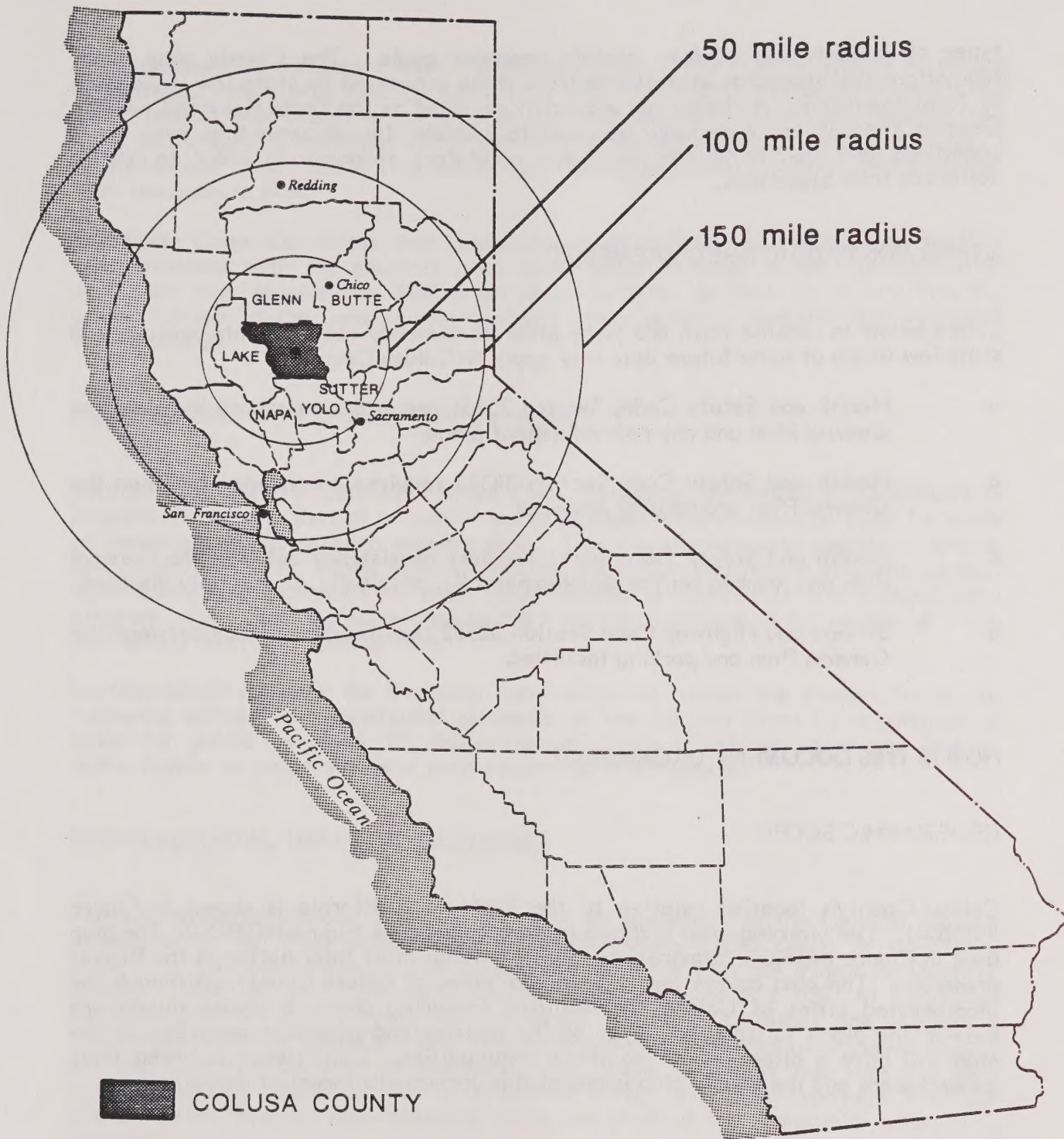
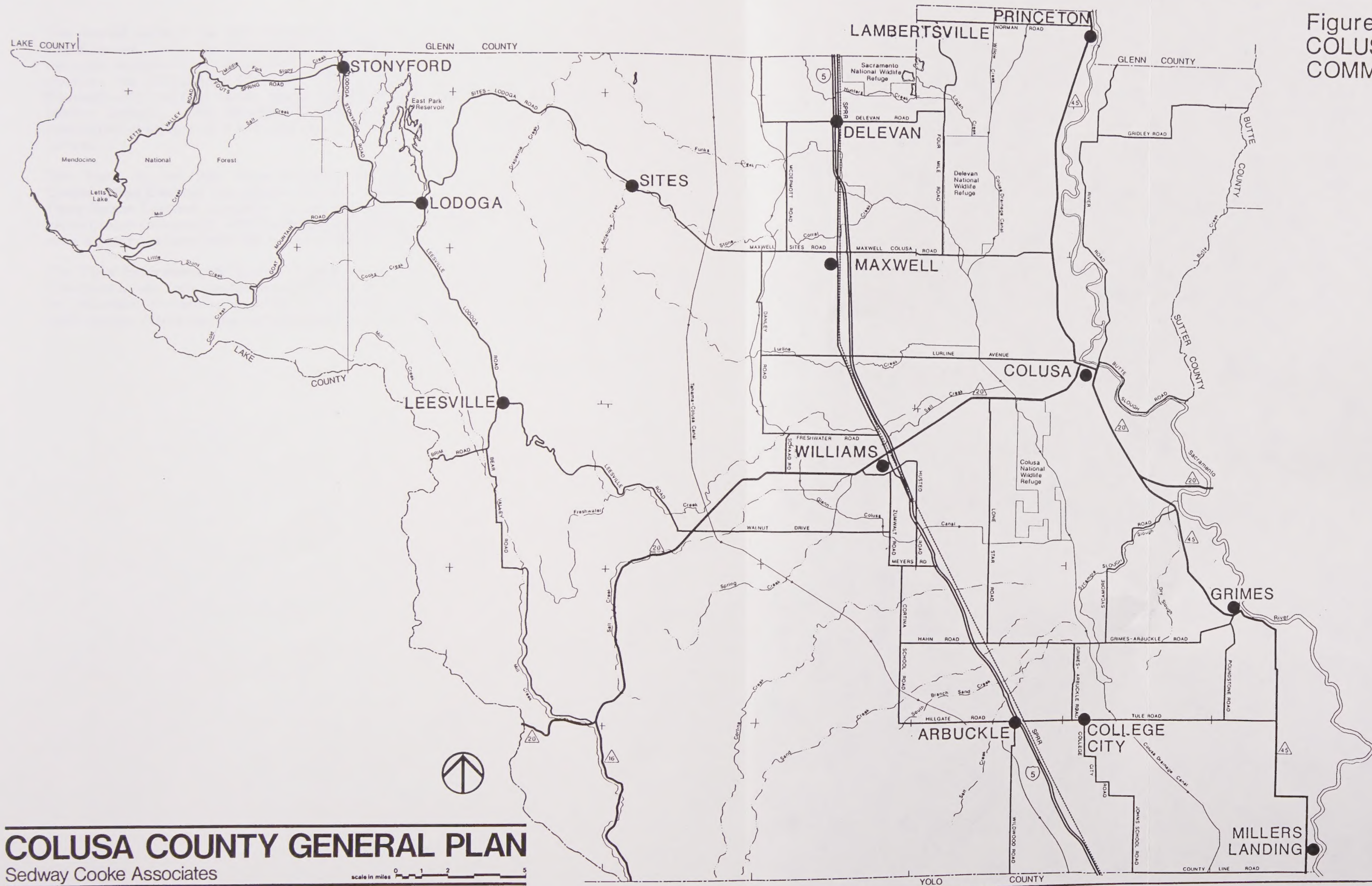


Figure INTRO-
REGIONAL LOCATION



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

Figure INTRO-2
COLUSA COUNTY
COMMUNITIES



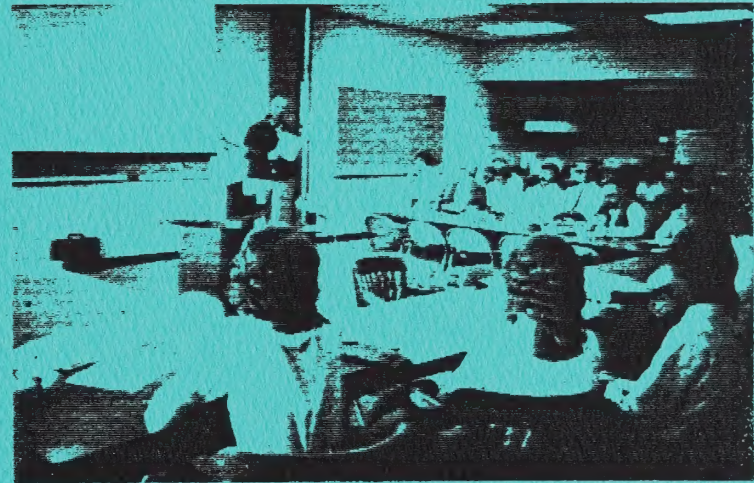
COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

The overall concept for the county's physical development is set forth in the **Land Use Element**, while the **Community Plan Element** describes planning concepts for individual communities. Movement between communities is the subject of the next chapter, the **Circulation Element**. This is followed by a **Community Services Element** which profiles water, sewer, drainage, solid waste, police, fire, school, and library systems. The **Housing Element** explores demographic conditions and residential development trends and determines how housing needs can be met in the future.

The focus of the last three elements is on the natural environment. The **Conservation Element** focuses on utilization of the county's natural resources. The **Open Space Element** concerns the preservation of these resources for visual and recreational enjoyment. The **Public Safety Element** describes where these resources pose a hazard or constraint for future development.

The **Final Environmental Impact Report**, including the Draft EIR and Responses to Comments, has been incorporated into this document. This document also includes an appendix containing existing land use maps for eight communities, and a bibliography listing persons contacted and resources used.



Goals & Objectives

GOALS AND OBJECTIVES

"Events are now transpiring, new departures are being taken, for the immediate success of which we tremble; but let them result now as they will, the future will vindicate the action."

Will Green, 1880
History of Colusa County

The principles that will guide the long-range development of Colusa County are embodied in the county's goals and objectives. **Goals** are broad expressions of the type of environment desired by the people who live and work in the county. **Objectives** create an approach for achieving goals and for realizing the county's potential. The goal and objective statements have been derived directly from interviews with county staff and questionnaires completed by the General Plan Committee. They are intended to address very real commitments on the part of the county's residents and policy makers.

Goals and objectives are presented for 10 issue areas: land use, community character, circulation, community services, housing, resource conservation, open space and recreation, public health and safety, human resources, and economic development. The first eight categories respond to the eight elements of the plan. Objectives in the last two categories--human resources and economic development--are embodied in each of the other elements.

LAND USE

GOAL: Maintain the efficient and harmonious use of land in the county, promoting a well-organized and orderly development pattern, avoiding random, haphazard growth, protecting public health and safety, and accommodating the orderly growth of population and employment.

- Objectives:**
- (a) To provide a balanced mix of land uses which reflect the needs of the local population.
 - (b) To improve mechanisms for the management and guidance of growth--both short-term and long-term.
 - (c) To conserve and protect agricultural land through a variety of strategies, including taxation, zoning, and general planning.
 - (d) To withhold development permits which would cause direct interference with viable agricultural operations.
 - (e) To improve the control and coordination of development on the fringe areas around Colusa County's communities.

- (f) To require large-scale developers to demonstrate a commitment to provide public service connections as a condition of development approval.
- (g) To upgrade the visual appearance and quality of development on the approaches to Colusa and Williams and prevent development which degrades the aesthetic quality of scenic roadways elsewhere.
- (h) To promote a streamlined and non-bureaucratic permitting and approval process without compromising the enforcement of local land use regulations.
- (i) To preserve opportunities for rural and semi-rural living through zoning and planning policies.
- (j) To permit rural development contingent upon a range of natural factors, including environmental impact, safety hazards and the availability of water.
- (k) To correlate the density of development within established communities with the capability of the public services in the community.
- (l) To discourage large-scale, freestanding developments, isolated from existing communities and public services.
- (m) To ensure that reasonable development standards are not compromised in efforts to attract commercial and industrial growth.
- (n) To promote development which is consistent in character and appearance with existing development in the county and limit development where it would be inconsistent with surrounding uses or detract from the area's character.
- (o) To ensure that development in rural areas is harmonious in scale and orientation with the natural physical setting.
- (p) To encourage renovation and aesthetic improvements in already developed areas.

COMMUNITY CHARACTER

GOAL: Protect the qualities that make the county distinct from other counties in California, and conserve the elements that contribute to a favorable quality of life.

Objectives: (a) To preserve the relaxed, pastoral atmosphere of Colusa County and its communities.

- (b) To promote a unified county spirit that overcomes the divisive forces between geographically different parts of the county and encourage greater cooperation between the communities of Colusa County.
- (c) To recognize the contribution of agriculture to the heritage and lifestyle of the county, and preserve an understanding of agricultural needs.
- (d) To sustain family-owned farms and locally-owned small businesses and ensure that they are economically viable.
- (e) To create an environment in which children raised in the county can mature and find employment and opportunity without hardship.
- (f) To conserve the county's uncrowded, uncongested environment.
- (g) To preserve historic buildings, landmarks, and places of historical significance.
- (h) To maintain a low cost of living relative to the state's urban centers
- (i) To maintain the individuality and distinct identity of Colusa County's communities.
- (j) To recognize that changes in the character of Colusa County will ultimately be a result of decisions about the future use of land.

CIRCULATION

GOAL: Develop and maintain an efficient circulation system to accommodate the movement of people and goods within Colusa County.

- Objectives:**
- (a) To prioritize the improvement of roads, directing county funds to those areas most in need of improvement.
 - (b) To explore new funding sources for road maintenance and improvement.
 - (c) To sustain a viable rural public transit system.
 - (d) To utilize the current county transportation system as the framework for siting new industrial or commercial development.

- (e) To maintain safe and uncrowded operating conditions on all county roadways.
- (f) To limit the intrusion of agricultural vehicles and heavy trucks on residential streets.
- (g) To minimize inconveniences and safety hazards caused by road flooding and washouts.
- (h) To reduce moving traffic hazards by installing stop signs, railroad crossing guards, and warning signs where appropriate.
- (i) To encourage the preservation of scenic vistas and limit the proliferation of commercial and political signs along county roadways.

COMMUNITY SERVICES

GOAL: Improve and maintain quality public services for local residents and businesses while recognizing financial constraints and limitations.

- Objectives:**
- (a) To maintain development patterns which permit the efficient delivery of public services.
 - (b) To explore alternative ways of administering flood control programs.
 - (c) To promote the improvement of local telephone service and provision of adequate telecommunication services for the expansion of commerce.
 - (d) To allocate county funds for public service improvements which are most urgently needed to protect public health and safety.
 - (e) To ensure adequate funding for county services, while exploring new financing sources for road maintenance, sewer and water service, and solid waste management.
 - (f) To establish wages and working conditions which make Colusa County competitive with other areas in California as a means of attracting and retaining quality public service personnel.
 - (g) To promote environmentally sound maintenance of canals and drainageways, balancing flood control programs and agricultural needs.
 - (h) To explore solutions to rising liability and insurance costs for fire districts and emergency service providers.

- (i) To minimize the impact of new development on the quality and cost of public services provided to current residents and businesses.
- (j) To acquire sites for the expansion or construction of public facilities in anticipation of future needs.
- (k) To minimize the detrimental impact of public facilities, such as sewage treatment plants and landfills, on the natural environment.
- (l) To promote coordination between the cities of Williams, Colusa, and special districts in the county to maximize the efficiency of service provision.
- (m) To limit the proliferation of septic tanks in areas that could feasibly be served by central sewer.
- (n) To improve the taste and smell of the public water supply where such improvements are found to be necessary.

HOUSING

GOAL: Encourage an adequate supply of safe, sanitary, and attractive housing in all communities in Colusa County, affordable to a wide range of income groups.

- Objectives:**
- (a) To promote a wide range of both renter and owner-occupied housing opportunities.
 - (b) To encourage residential development of a scale and character that is consistent with the surrounding community.
 - (c) To discourage housing development in areas where roads and public services are inadequate and cannot be easily improved to meet the development's needs.
 - (d) To promote housing affordability.
 - (e) To explore programs for the rehabilitation and upgrading of existing residential areas.
 - (f) To ensure that self-help housing and other forms of subsidized housing is attractive and does not detract from community character.
 - (g) To improve regulations governing the siting of mobile homes.

- (h) To meet the housing needs of special groups within the county, such as single mothers, senior citizens, and seasonal farmworkers.

RESOURCE CONSERVATION

GOAL: Encourage a balanced mix of conservation, utilization, and development of Colusa County's natural resources.

- Objectives:**
- (a) To ensure conservation of existing fish and wildlife habitat in the county, while facilitating its expansion where appropriate and agreeable to the landowner.
 - (b) To promote the management of minerals and reduce the impacts of mineral extraction on the environment.
 - (c) To explore alternative sources of energy, including those which utilize rice stubble and hulls.
 - (d) To recognize that agricultural land is the county's greatest natural asset and to take appropriate measures to safeguard Class I and II soils in the future.
 - (e) To preserve the natural qualities of the county's rivers and streams.
 - (f) To encourage the efficient use of the county's timber resources
 - (g) To promote water development projects which provide either agricultural, recreational, flood control, or local domestic benefits.
 - (h) To promote the multi-purpose use of state and federal lands.
 - (i) To promote zoning, planning, and taxation policies which preserve agricultural land, hillsides, and watershed areas.
 - (j) To promote agricultural practices that conserve soil and minimize the disruption of natural drainage patterns.
 - (k) To discourage development and land subdivision in areas that are ecologically sensitive or have pollution problems.
 - (l) To safeguard the quality of the county's groundwater supply and ensure its efficient use.
 - (m) To encourage water use methods which minimize land subsidence.

- (n) To promote development which utilizes ecologically sound and energy conserving techniques.
- (o) To promote a high level of air quality
- (p) To conserve and explore historical resources, including archaeological sites.
- (q) To develop a surface supply of water commensurate with the needs of development so as not to impact existing agricultural practices.

OPEN SPACE AND RECREATION

GOAL: Preserve open space and opportunities for recreational and leisure-time activities in Colusa County.

- Objectives:**
- (a) To preserve and promote the Sacramento River as a recreational asset.
 - (b) To promote a diverse range of recreational opportunities within the parks of Colusa County.
 - (c) To promote continued opportunities for hunting and fishing where appropriate.
 - (d) To retain the natural character of large open space areas.
 - (e) To develop a program of open space preservation which ensures the provision of open land near existing communities.
 - (f) To conserve the natural beauty of county rivers, streams, and hillsides.
 - (g) To maintain expansive open spaces, uninterrupted by urban development, both on the valley floor and in upland valleys.
 - (h) To locate new recreational and tourist-serving areas where they will be compatible with surrounding uses.
 - (i) To provide varied recreational facilities serving neighborhood needs, community needs, and regional needs.

PUBLIC HEALTH AND SAFETY

GOAL: Maintain a high level of public health and safety for all residents of Colusa County.

- Objectives:**
- (a) To promote quality health care services.
 - (b) To reduce threats to life, property, and public services caused by flooding.
 - (c) To explore methods to control and abate mosquitoes, including possible revisions to the Mosquito Abatement District boundary.
 - (d) To preserve clean air, surface water, and groundwater.
 - (e) To promote programs which combat narcotic and alcohol abuse.
 - (f) To minimize odor problems at the sewage treatment plants and ensure the safe disposal of wastewater effluent.
 - (g) To maintain safe and adequate water treatment and conveyance facilities.
 - (h) To upgrade emergency medical services.
 - (i) To recognize and address threats to public health posed by the use, transport, storage, manufacture, and disposal of hazardous materials.
 - (j) To maintain a levee system which provides the maximum flood protection feasible.
 - (k) To discourage incompatible uses in areas of excessive noise, and to restrict the introduction of excessive noise in areas where land use compatibility guidelines would be exceeded.
 - (l) To minimize the threats to life and property from seismic and geologic hazards.
 - (m) To minimize fire hazards within both wild and developed areas.
 - (n) To promote rapid response time and effective service by fire and crime prevention agencies.
 - (o) To more accurately determine the long-term effects of injection wells on the groundwater supply.

HUMAN RESOURCES

GOAL: Establish an environment which nurtures the personal, academic, and professional growth of local residents, and which provides social services that meet their needs at all stages in life.

- Objectives:**
- (a) To maintain quality schools and excellence in education.
 - (b) To maintain community gathering places such as local schools, libraries, and town halls.
 - (c) To promote non-discrimination in housing, education, and employment.
 - (d) To support mental health and family counseling programs.
 - (e) To maintain quality services, programs, and facilities for senior citizens.
 - (f) To improve vocational training for youths and adults.
 - (g) To improve recreational programs and facilities for teenagers and young adults.
 - (h) To promote and publicize the county fair and similar events which celebrate local heritage, culture, and natural assets.
 - (i) To increase opportunities for youngsters to remain in Colusa County after leaving high school.
 - (j) To reduce abuses and misuse of the welfare system while continuing to provide assistance to those who are truly in need.
 - (k) To encourage neighborhood and "grass-roots" efforts such as crime watch programs, clean-ups, and yard improvements.
 - (l) To promote and enhance the Sacramento Valley Museum.
 - (m) To upgrade cultural and entertainment opportunities in the communities of Colusa County.
 - (n) To promote continuing education programs and cooperative efforts with Yuba College and Cal State-Chico.
 - (o) To encourage appreciation of the county's heritage by preserving reminders of its past, such as the Princeton Ferry, the Stone Corral, and the Grand Island Shrine.
 - (p) To ensure quality public library services competitive with libraries in comparable areas.

- (q) To promote solidarity and mutual support during times of economic and natural crisis.
- (r) To keep local residents and businesses informed of local government activities, issues, and plans, and to encourage their participation in civic affairs.

ECONOMIC DEVELOPMENT

GOAL: Achieve a well-balanced, diversified economy with broadened employment opportunities for all Colusa County residents without sacrificing environmental quality and an agrarian lifestyle, and without creating conflicts between new urban uses and existing agricultural operations.

- Objectives:**
- (a) To give priority to industry which is compatible with agriculture or which is based on the processing or distribution of agricultural commodities.
 - (b) To foster the expansion of existing business and support new business which employs local people and utilizes local talent.
 - (c) To diversify the local economic base to avoid complete dependence on agriculture.
 - (d) To increase local career opportunities for young people.
 - (e) To promote patronage of local businesses through campaigns such as "Shop Colusa First" or "Made in Colusa County".
 - (f) To encourage new industries which offer stable, year-round employment.
 - (g) To promote development which improves the local tax base.
 - (h) To provide adequate retail and service activities for the county's population and workforce.
 - (i) To more aggressively publicize the county's assets as a means of attracting new business and investment.
 - (j) To locate new industry in such a way that the impact on existing communities is minimized, and interference with agricultural operations is minimized.
 - (k) To promote quality restaurants, stores and hotels for local residents, interstate travelers, and county visitors.

- (l) To encourage competition between local businesses and ensure fair prices for goods and services.
- (m) To support enterprise zones and other economic incentive programs which encourage job creation.
- (n) To provide technical assistance to farmers seeking to diversify their crops or use new farming technologies.
- (o) To recognize the potential impacts of Proposition 65 relative to farming, industry, and future development in Colusa County.
- (p) To support the improvement of downtown shopping areas in all Colusa County communities.
- (q) To lobby for a continued strong federal farm policy.
- (r) To recognize and plan for the "spinoff" demand that results from industrial development, especially the demand for new homes and public services.
- (s) To recognize the fiscal benefits of a diversified tax base without losing sight of the real fiscal, environmental, and social costs of growth.



Land Use Element

THE LAND USE ELEMENT

"Perhaps you never saw a spot of earth so beautiful that the love of it would take from you all the enchantment of such a mining excitement as that of 1849...and cause you to settle down and turn a deaf ear to all the stories of bonanzas found and fortunes made! Perhaps no man living will ever see another such country!"

"Out West" Magazine on
Colusa County, 1902

ORGANIZATION OF THE LAND USE ELEMENT

The Land Use Element provides a description of current and proposed future land use patterns in Colusa County. The Element begins by identifying the characteristics of the county's communities, rural settlements, farms, and undeveloped areas. This discussion is followed by a description of future land use categories and policies for future development. Policies are expressed graphically on the Future Land Use Map, which shows where various categories of urban, agricultural, and open space uses are planned during the next 20 years.

The Land Use Element is followed by a separate chapter containing more detailed plans for seven individual communities and the Stonyford-Lodoga area. Each of the community plans is introduced with a history of the community to provide some perspective on how past development patterns have influenced the plan for that town's future. The histories are followed by an analysis of each town's current land uses and the opportunities and constraints to its growth. This discussion provides the basis for the plan maps which should be used to guide development during the coming years.

GENERALIZED COUNTY LAND USE PATTERN

INTRODUCTION

Existing land uses in Colusa County are shown in Figure LU-1 and are summarized in Table LU-1. The land use pattern is typical of the rural counties of the Sacramento Valley. A checkerboard of large acreage farms dominates the eastern half of the county, with land ownership and road alignments following square mile section lines. The land is flat and is covered by fields of rice, orchards, and row crops. Views are expansive, framed only by the rolling foothills of the Coast Range on the west and the jagged peaks of the Sutter Buttes on the east. As one moves west through the county, large farms give way to much larger cattle and sheep ranches, cultivated fields give way to arid rangeland, and the flat terrain transitions into rolling hills and spectacular upland valleys. Further west, the land becomes yet more rugged and wild, until finally reaching the summit of Snow Mountain in a wilderness area some 7,000 feet above the valley floor.

Table LU-1: Countywide Existing Land Use Summary

	<u>Acres</u>
Communities ¹	2,500
Rural Subdivisions ²	1,200
Orchards and Vineyards	38,200
Cropland ³	358,000
Undeveloped Bottomlands	9,300
Undeveloped Rangeland ⁴	244,800
National Wildlife Refuges	12,000
National Forest	<u>72,000</u>
T O T A L	738,000

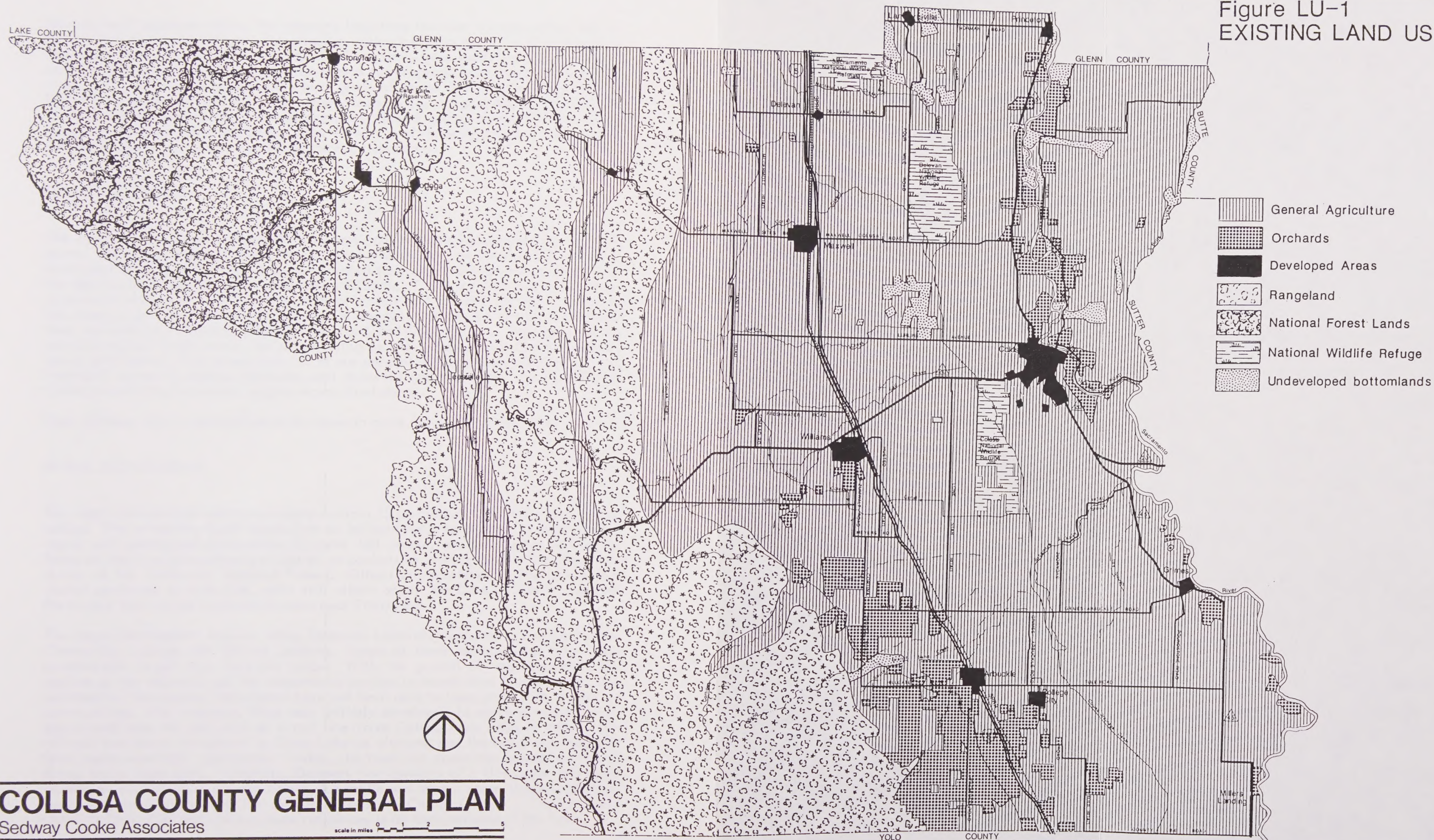
¹Includes vacant lots within developed area.

²Includes vacant lots within Century Ranch and East Park Lake View Areas.

³Total for cropland is greater than total reported by Agricultural Commissioner because non-productive cropland is included in this total.

⁴Includes Bureau of Land Management and watershed lands.

Figure LU-1
EXISTING LAND USE



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

Development patterns reflect the county's long-time reliance on agriculture and its ties to the river and railroad for shipping agricultural goods. The first towns to develop in the county--Colusa, Grimes, and Princeton--were loading points for barges carrying wheat down-river and overnight stops for stages making their way along the river road. Twenty years later, the next group of towns developed as the Northern Railway made its way up the valley from Sacramento. Meanwhile, in the foothills and mountains, several shortlived settlements thrived around mines and hot spring resorts in the late 1800s and early 1900s. By virtue of its designation as county seat, Colusa emerged early on as the largest city in the county.

CITIES AND TOWNS

The county's two incorporated cities--Colusa and Williams--encompass about 1,300 acres. Adjoining these cities in the unincorporated area are another 500 acres of developed acreage. The largest unincorporated town and third largest community in the county, Arbuckle, is almost as large as Williams. There are five other unincorporated communities in Colusa County, each originally laid out with narrow rectangular lots along a grid of right-angled streets. Maxwell is the largest of these communities, followed by Princeton, Grimes, Stonyford, and College City. Together, the six unincorporated towns cover 700 acres, bringing the total area in "urban" uses to about 2,500 acres. This is less than 1/2 of one percent of the county's land area. The "railroad" towns (Arbuckle, Williams, and Maxwell) and the "river" towns (Grimes, Colusa, and Princeton) cover roughly equal-sized areas.

Each of these eight communities is discussed in more detail in the following chapter.

RURAL SETTLEMENTS

The eight communities described above contain 75 percent of Colusa County's population. The remaining 3,800 people live on isolated rural homesites, in small settlements with permanent populations of under 100 people, and on roughly 600 farms. Some of the rural homesites are located on pockets of private land within the boundaries of the Mendocino National Forest. Others are scattered in the almond orchards southwest of Arbuckle, while still others are in the Century Ranch and East Park Lake View Acres rural subdivisions near Stonyford.

The small settlements include Sites, Delevan, Leesville, Sycamore, Lambertsville-Clarksville, Lodoga, and Millers Landing. Some of these communities were once considerably larger than they are today. With the growth of "agri-business", the decline of the railroad, and the tremendous savings in travel time brought on by the automobile, the smaller farm towns have not been able to keep pace with the larger communities. For example, **Sites** was initially developed to serve a nearby stone quarry and was the terminus of a rail line from Colusa from 1886 to 1916. The railroad was never completed to Clear Lake as planned, and the hotel and school in Sites were eventually abandoned. Today, the town has about ten homes, a general store, and a town park. Similarly, **Delevan** now consists of a rice dryer and grain warehouse and less than a dozen homes. **Leesville** was once a stage stop on the steep road between Williams and the resorts of western Colusa County. The Leesville Hotel, built in 1878 and now a private residence, is all that remains of the town.

Lambertsville was established as a duck hunting club and most of its 85 bungalows and trailers are occupied on a seasonal basis only. The dozen homes in adjoining **Clarksville**, also a duck hunting center, are occupied on a more permanent basis. **Lodoga** was initially developed as a strip of vacation cabins along the banks of Indian Creek. **Sycamore** was one of the county's first settlements but today is little more than a crossroads midway between Grimes and Colusa. **Millers Landing** consists of about a half dozen homes and a grain dryer along the river.

FARMS AND RANCHES

Stretching across the floor of the Sacramento Valley and into the foothills beyond are some 600 farms and ranches. Cropland occupies about 235,000 acres, or about one-third of the county's total land area. Nearly all of the cultivated agriculture is located in the Sacramento Valley, but some farming also takes place in the upland Indian, Antelope, and Bear Valleys. Ranches occupy about 200,000 acres, just over one-quarter of the county's land area. Agricultural land use patterns are documented in Tables LU-2 and LU-3.

Rice is by far the dominant crop in Colusa County, covering 110,000 acres. The crop grows especially well in the poorly drained alkali soils of the Colusa Basin. In 1985, rice represented about 50 percent of the crop acreage and 42 percent of the agricultural income in Colusa County. In fact, more than one in every 7 acres in Colusa County is planted in rice. Wheat ranks a distant second in acreage planted, with about 21,000 acres. Most wheat is grown on the higher parts of the Sacramento Valley and in the dry upland valleys. Other dominant field crops include tomatoes, corn, sugar beets, dry beans, alfalfa, and safflower. Vine crops are also an important agricultural commodity.

Fruit and nut orchards occupy over 26,000 acres in the county and represent 10 percent of the agricultural income. Almonds cover the largest area, with 16,000 acres. About 95 percent of the almond crop is grown south and southwest of Arbuckle. Prunes and walnuts are grown along the Sacramento River and in limited areas near Williams and Arbuckle. With the additional water supply provided to the western edge of the valley by the new Tehama-Colusa Canal, additional acreage is likely to be planted in orchards in the future.

Livestock is the greatest consumer of the county's land resources, but represents just under 5 percent of the county's agricultural income. Most of the livestock is raised in the foothill and mountain areas. Milk and apiary products, also centered in the West County area, represent about 1 percent of the agricultural income.

The average farm size in 1978 was 748 acres. This figure is a bit misleading, since it includes very large acreage ranches in the hills. Table LU-4 indicates that 70 percent of the farms were actually smaller than 500 acres. Only 8 percent, or about 50 farms, contained more than 2,000 acres. This figure includes cattle and sheep ranches some of which are larger than 10,000 acres. At the other end of the spectrum, there are about 175 farms smaller than 50 acres. Most are orchards and are located southwest of Arbuckle and along the river. In 1978, over 90 percent of the county's farms were operated by families or partnerships.

Table LU-2: Agricultural Production Trends

	<u>1976</u>	<u>1985</u>	<u>Percent Change</u>
Field Crops - acres	245,665	194,020	-21
o Alfalfa	3,440	6,400	+86
o Barley	18,600	2,100	-89
o Beans, dry	9,375	8,600	-8
o Beets, sugar	12,800	8,800	-31
o Corn	16,000	10,500	-34
o Grain hay	1,200	2,250	+87
o Irrig.Pasture	12,000	3,000	-75
o Rice	108,000	110,000	+2
o Safflower	8,100	5,750	-29
o Sorghum	9,150	2,900	-68
o Sunflowers	0	620	--
o Tomatoes	8,000	12,100	+51
o Wheat	39,000	21,000	-46
Orchard Crops - acres	22,150	26,400	+19
o Almonds	13,600	16,000	+18
o Prunes	4,900	4,600	-6
o Walnuts	3,650	5,800	+59
Seed Crops - acres	6,145	13,285	+116
o Vine Crops	6,145	13,205	+114
o Onions	0	80	--
Range	200,000	200,000	0
Milk Production - Cwt produced			
o Market	56,600	63,000	+11
o Mfg	6,300	2,000	-68
Livestock-Head Produced			
o Cattle	10,500	20,100	+91
o Sheep	9,900	11,800	+19
o Hogs	500	0	--
Bees - numbers			
o Packages	12,200	8,600	-30
o Queens	4,500	22,200	+393
o Pollinizers	8,270	26,500	+320

Source: Colusa County Agricultural Commissioner reports

Table LU-3: Range of Farm Sizes

<u>Size Range</u>	<u>Number</u>	<u>% of County Total</u>
Less than 10 acres	39	6
10 to 49 acres	135	21
50 to 179 acres	138	21
180 to 499 acres	147	23
500 to 999 acres	69	11
1,000 to 1,999 acres	68	10
2,000 acres or more	49	8

Average Farm Size: 748 acres

Source: U.S. Census of Agriculture, 1978

* * * * *

Table LU-4: Leading Agricultural Commodities - 1985

<u>Crop</u>	<u>Dollars</u>	<u>% of Total</u>
1. Rice	\$58,994,000	42
2. Tomatoes	\$17,725,000	12
3. Vine Crop Seed	\$12,531,000	9
4. Sugar Beets	\$6,618,000	5
5. Wheat	\$5,968,000	4
6. Almonds	\$5,760,000	4
7. Cattle	\$5,395,000	4
8. Dry Beans	\$4,025,000	3
9. Field Corn	\$3,748,000	3
10. Walnuts	\$3,654,000	3
Total Top Ten	\$124,518,500	88

Source: Colusa County Agricultural Commissioner

There are several non-farm uses that are widely dispersed across the valley. Grain drying and storage facilities are located at several points along existing and abandoned railroad lines. A golf course lies 4 miles west of Arbuckle, an "Indian Bingo" parlor lies between Colusa and Princeton, landfills lie south of Maxwell and Stonyford and on Hahn Road, and duck hunting clubs are located adjacent to some of the rice fields and wildlife refuges. There are also a number of electric power lines that traverse the valley floor and the upland areas, and numerous gas wells on widely dispersed small plots of land in the valley.

UNDEVELOPED AREAS

About 45 percent of the county consists of forested rangeland, National Wildlife Refuges, and Mendocino National Forest lands. Much of the rangeland is owned by the Bureau of Land Management (BLM) or the Bureau of Reclamation. BLM Resource Management Lands are concentrated along the Lake County border, on the Cortina Ridge, and on the chaparral-covered hills between Lodoga and the Antelope Valley. The western part of the county once contained several hot spring resorts and small mining towns, but only Wilbur Springs remains today. Southwest of the springs, a number of mines are still active.

The Colusa, Delevan, and Sacramento National Wildlife Refuges cover about 12,000 acres of the low-lying Colusa Basin and provide a haven for wildfowl in the Sacramento Valley Flyway. The Colusa County portion of the Mendocino National Forest covers over 70,000 acres, or about 10 percent of the county's total land area. Developed uses in the forest include the Fouts Springs Boys Camp and recreational facilities at Letts Lake. Use of the National Wildlife and Forest lands are more thoroughly discussed in the Conservation and Open Space Elements of this plan.

FUTURE LAND USE PLAN

LAND USE CONCEPT

How Was The Plan Developed

The countywide land use plan has been based on seven considerations:

- (1) An analysis of existing land use patterns and committed developments.
- (2) A list of goals and objectives for the future prepared by the 56-member General Plan Committee.
- (3) Community input provided at a series of town meetings, written comments on preliminary land use plans, and comments made at Planning Commission adoption hearings.
- (4) An analysis of opportunities and constraints to development in each town, including natural factors (soils, flooding, etc.) and man-made factors (sewer, water, schools, etc.).
- (5) Population, employment, and housing projections for the county which indicate how much land is actually needed to support future development.

- (6) Recently adopted studies for specific areas, namely 14th Street near Colusa, the Williams and Colusa spheres of influence, the Interstate 5 Corridor, and Stonyford-Lodoga.
- (7) The availability of water in each community and in the county as a whole.

The overall concept for future growth was developed by looking at three alternative land use plans. All alternatives assumed the same level of population and employment growth between now and the year 2010, but the growth was distributed differently in each. The first alternative, **Colusa Growth Center**, would have resulted in public policies that channeled more than half of the county's future growth into Colusa. The second alternative, **I-5 Growth Corridor**, proposed policies which would focus growth heavily around Williams, Maxwell, and Arbuckle. Under this alternative, Williams and Colusa would be roughly equal-sized cities by the year 2010. The third alternative, **Dispersed Growth Centers**, would have resulted in more lenient policies about rural residential development and would have promoted growth in small towns like Princeton and Grimes. The **I-5 Alternative** was ultimately selected.

Each of the five General Plan subcommittees met independently to evaluate the alternatives and to consider which one best matched their vision of Colusa County in the year 2010. Support for the I-5 Alternative was based on the belief that it provided the most logical sites for business and industry and directed growth into those communities that were physically able to accommodate more people and jobs. Transportation and access were the most frequently stated reasons for channeling growth into the I-5 Corridor. There was also a recognition that public services in Maxwell and Williams had more capacity remaining than Colusa, as well as less severe drainage problems and flood hazards.

Once the overall distribution of growth was determined, small area plans were developed for the eight communities mentioned above. In Colusa and Williams, the area plans looked primarily at the unincorporated areas. In each town, the most logical areas for growth were determined by considering community preferences and land capability. The general goal of protecting and preserving agriculture resulted in land use plans showing compact communities and very little new development outside city and utility district spheres of influence.

Growth Targets

Countywide. The General Plan uses a county population target of 23,500 for the year 2010. This represents about 8,500 people more than the 1987 population, and assumes that population will increase during the next 23 years at about the same rate that it did between 1980 and 1987. The projected growth rate is much faster than the rate of the 1970s, when the county had a net increase of only 36 people per year.

The projections assume that housing production will average between 120 and 150 units per year, comparable to the growth of the last five years, but more than double the housing growth rate of the 1970s. It is also assumed that job growth will occur at more than twice the rate of the early and mid-1980s, especially in the non-agricultural sectors. If the labor force participation rate (the percentage of county residents working or looking for work) remains the same for the next 23 years, about 110 new jobs will be created each year. This is still not as fast as the job growth rate of the 1970s.

The growth in jobs will probably be accompanied in a shift in employment composition. The number of persons employed directly in farming has dropped steadily over

the last two decades and will continue to do so in the future. Manufacturing jobs are likely to increase. Since most of these jobs will be in agricultural processing and distribution, the base of the county's economy will still be driven by agriculture. Even the new retail and service jobs created to serve the larger population will be indirectly dependent on agriculture.

Distribution of Growth. Associated with each of the three alternative plans evaluated by the General Plan Committee were different assumptions about where growth within Colusa County would occur between now and the year 2010. Based on the preferred alternative, the following population projections were used as the basis for the county plan:

Table LU-5: Population Projections

	1987	2010	Total Change	Percent Change
Colusa (including Sphere)	5,600	7,600	2,000	36 %
Williams (including Sphere)	2,000	5,400	3,400	170 %
Arbuckle	1,700	3,200	1,500	88 %
Maxwell	850	1,900	1,050	123 %
Princeton	300	400	100	33 %
Grimes	300	400	100	33 %
College City	150	200	50	33 %
Stonyford-Lodoga	800	1,000	200	25 %
Rural farm areas	3,100	3,400	300	10 %
TOTAL	14,800	23,500	8,700	58 %

The three communities in the I-5 Corridor are projected to capture 68 percent of the county's population growth between now and the year 2010. By contrast, these communities captured only 40 percent of the county's growth during the period 1970-1987. The assumption is that the county's efforts to encourage job growth in the I-5 Corridor will cause housing demand to shift west from Colusa towards Williams, Arbuckle, and Maxwell.

Plan Concept

Protection of Agriculture. The fundamental idea behind the land use plan is that Colusa County's growth should be concentrated in existing communities and not left to "leapfrog" into viable agricultural areas. The plan promotes the development of the vacant gaps within each town before allowing growth to encroach into farm areas. Once communities are fully developed, this Element's policies stress that growth should take place in an orderly manner, generally adjacent to existing urban areas. Large freestanding developments or scattered rural subdivisions should be prohibited. The plan also designates land in such a way that minimizes conflicts between different uses--be they agricultural and urban, or residential and industrial.

At the heart of the plan is the goal of preserving and enhancing agriculture. Colusa County farmland is an irreplaceable natural resource, as important to California as oil, natural gas, gold, or any other of the state's limited resources. Farming is more than the basis of the county's economy, it is central to its heritage and lifestyle. Agriculture directly employs 36 percent of the county's workforce and provides jobs

for many more persons who provide goods and services to the farm community. Were agriculture to decline or disappear due to a loss of the resource base, economic hardship would be experienced by most all county residents.

Growth Areas. At the same time, the land use plan provides room for growth. It is universally acknowledged by members of the General Plan Committee that change is inevitable in Colusa County. The county lies just an hour's drive from some of the state's fastest growing urban centers. Land and homes are inexpensive, the scenery is attractive, traffic is light, and the communities are pleasant. Although many are apprehensive about the side-effects of growth, there is a shared belief that if development is properly managed, the quality of life now enjoyed by county residents can be preserved or even enhanced.

There is a strong desire to diversify the local economic base and bring new, year-round jobs to Colusa County. There is a desire to provide new housing for a wide range of income groups. There is widespread support for efforts to promote downtown retailing and tourism in the county's communities. All of these goals imply that some level of growth and change are viewed as desirable and necessary in the county. The driving goal of the Land Use Element is to accommodate growth without diminishing the county's rural character or reducing the viability of its farms and ranches.

The year 2010 Plan envisions four population centers in the county, organized along the north-south axis of Interstate 5 and the east-west axis of Highway 20. These two transportation routes form the backbone of the county, much as the river did in the 1850s and the railroad did in the late 1800s. Colusa will remain the largest city and "hub" of the county, and retain its prominence as the center of county government, health care, human services, shopping, and entertainment. Williams will remain the county's second largest city, but the gap between its population and Colusa's will become much narrower as the years go by. By the year 2010, Williams is projected to have about as many people as Colusa does now.

Arbuckle and Maxwell are projected to remain the county's third and fourth largest communities, although their size relative to Colusa will increase. Each town is expected to approximately double in population. Areas for new industry are planned close to the interstate in both communities, and new residential areas are planned on the western edge of each town. The freeway interchanges in Arbuckle and Maxwell are envisioned as highway-oriented commercial areas, offering food, lodging, gas, and other services to both local and interstate travelers.

By virtue of the city's location at the crossroads of I-5 and Highway 20, Williams is projected to be the fastest growing community in the county over the next 20 years. The city is expected to more than double in population and will probably triple in land area. As in Arbuckle and Maxwell, the area along Interstate 5 is planned for industrial development, residential areas are planned south and west of the city, and commercial areas are planned around the freeway interchanges.

It is important that Williams and Colusa remain separate communities as they grow larger. Strip development along Highway 20 between the two cities should be prohibited, and the open space that separates Williams and Colusa should be retained. Areas of open space should also be retained between the communities in the I-5 Corridor. Although the preferred plan concentrates growth in the freeway corridor, the intent is not to create a linear city that merges Arbuckle, Williams, and Maxwell. Growth is to be concentrated close to the existing communities. At least 6

miles of farmland will separate Maxwell and Williams, while at least 8 miles of farmland will separate Williams and Arbuckle.

The four population centers--Arbuckle, Colusa, Maxwell, and Williams--presently contain 68 percent of the county's population. By the year 2010, they will contain 77 percent of the county's population. About 90 percent of the county's population growth over the next two decades is projected to occur in these four communities. The land use plans reinforce these projections by designating land in these towns for new development, and strictly limiting the supply of developable land elsewhere.

I-5 Corridor Development. A notable characteristic of the land use plan is its concentration of industrial development in the narrow area between Old Highway 99 and Interstate 5. When the Interstate was constructed parallel to the highway, a substantial amount of land was left isolated between the two roadways. Farming this strip of land has become difficult for two reasons. First, because agricultural burning creates thick clouds of blowing smoke, it is virtually impossible to grow rice and burn hulls there without obscuring visibility on the Interstate. Much of the soil is poorly suited for other crops, and cannot be easily replanted. Second, because the strip of land is narrow and is bounded by power lines and the freeway, aerial spraying is impractical. This further constrains the feasibility of farming.

At the same time, much of the acreage between the Interstate and Old Highway 99 has qualities that are very attractive for development. The land is flat, clearly visible from the Interstate, and in many cases directly accessible to an interchange. On many sites the soil is alkali and only marginally productive. The Southern Pacific Railroad traverses most of the properties, providing a direct rail link to Sacramento and the Pacific Northwest. Moreover, Sacramento is just an hour away by truck.

The land use plan designates a number of these areas for future industrial use. Such areas are located adjacent to Williams, Maxwell, Delevan, and Arbuckle, at the Hahn Road and County Line Road freeway interchanges, and at the locations where Meyers Road and Harrington Road reach the Interstate. Each of these areas is envisioned as a "node" where future industry should be concentrated. The nodes that are located between the four communities may remain in agriculture for the next 20 years. When their development does occur, it is envisioned that agriculturally-related industry will be the primary use.

Rural Valley Areas. Beyond the industrial areas and four population centers, Colusa County in the year 2010 will look much as it does today. Some growth is planned in the communities of Grimes and Princeton, all within the existing service district boundaries. College City is to remain the same, although some new housing may be built on existing vacant lots in the original townsite and agricultural industry will be encouraged east of town. Delevan and Sites are to remain small rural service centers. New rural residential development on the valley floor is to be prohibited, except in those areas where past development or parcelization has already precluded the use of the land for agriculture.

Upland Areas. Growth in the western third of the county is to be limited to a handful of areas between Stonyford and Lodi. The Land Use Plan incorporates the recommendations of a 1983 planning study for this area which places strict limitations on land subdivision. Further subdivision and lot splitting outside the Stonyford Water District is subject to slope regulations, minimum lot size requirements between 10 and 80 acres, and proof of water availability. Outside of Stonyford, Lodi, Century Ranch, and East Park Lake View Acres, most land in the Indian Valley

will remain in farming or ranching. 10-Acre homesites are permitted in several areas, subject to water availability.

Other upland valleys are to remain in agriculture. Because of the limited availability of water, dryland farming and grazing will continue to be the primary uses in the Bear and Antelope Valleys. Rangeland and hillside areas are to remain undeveloped, although mineral extraction will be permitted subject to environmental study. Eventual rezoning of most upland areas to increase the 80-acre minimum parcel size is recommended. The present zoning would allow large ranches to be subdivided into scores of 80-acre parcels, each of which could support a single family dwelling. Such development would have a detrimental effect on transportation and community services and would increase the population of an area subject to severe fire and erosion hazards. Where subdivision of large ranches does occur, it is imperative that the primary use of the land remain farming, grazing, or open space.

Plan Map. The future land use plan is shown in generalized form in Figure LU-2. Table LU-6 presents the acreages in each land use category shown. The plan designates 419,000 acres for general agriculture, 183,000 acres for upland agriculture or rangeland, and 114,000 acres for resource conservation. To support the level of population and employment growth projected, about 13,700 acres are designated for "urban" and "rural residential" uses. This includes 3,700 acres of land that are already developed and 10,000 acres of vacant land. Total developable acreage in the plan still represents less than 1.4 percent of the county's land area.

Implementing the Plan. It should be emphasized that simply designating land for development on a map does not mean that development will actually occur. Williams will not grow faster than Colusa simply because the land use plan shows more land for housing there. The cities and county must take actions over the next two decades to encourage a development pattern that conforms to the land use plan. The zoning ordinance will need to be revised and the zoning map will need to be updated. Plans for expanded water and wastewater treatment facilities will be needed in the county's four largest communities. New roads, schools, parks, and local services must be provided.

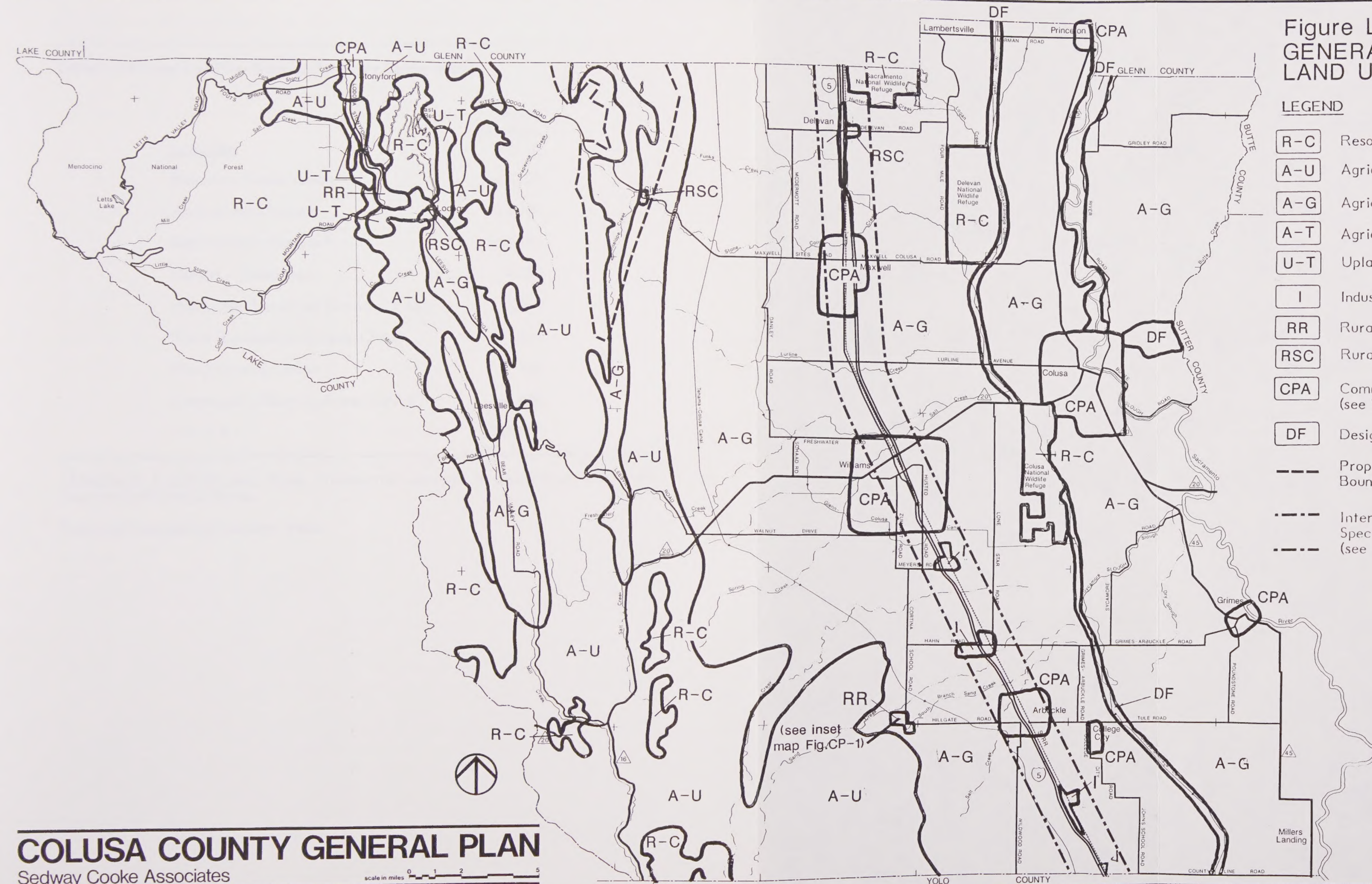
By controlling where public investments are made, the cities and county can cause development to follow the direction outlined in this plan. It is also important that the county's economic development program target those communities identified in the General Plan as growth centers. In each town, the Land Use Plan establishes a direct relationship between the amount of land designated for development and the year 2010 population projection for that town.

In all cases the amount of land shown for future development exceeds the amount of growth projected for each community. The surplus is created to give the real estate industry some flexibility and to recognize that all landowners with property bearing an "urban" designation do not intend to sell or develop their properties in the next 20 or 25 years. Some of the land designated as "urban" is likely to remain in agriculture throughout the planning period.

Figure LU-2
GENERALIZED
LAND USE PLAN

LEGEND

- R-C Resource Conservation
- A-U Agriculture-Upland
- A-G Agriculture-General
- A-T Agriculture-Transition
- U-T Upland-Transition
- I Industrial
- RR Rural Residential
- RSC Rural Service Center
- CPA Community Planning Area (see inset maps)
- DF Designated Floodway
- Proposed Water Project Boundaries
- - - Interstate 5 Corridor Special Planning Area (see Appendix C)



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

scale in miles 0 1 2 5

Table LU-6: Land Use Plan Acreage Summary Countywide¹

<u>Land Use</u>	<u>Acres Designated in Plan</u>
Resource Conservation	114,200
Agriculture - Upland	183,100
Agriculture - General ²	419,100
Upland - Transition	4,200
Non-Urban Industrial (outside CPAs)	1,500
Rural Residential (outside CPAs)	1,400
Rural Service Center	100
Community Planning Areas (CPAs)	<u>14,400</u>
T O T A L	738,000

¹Additional Industrial and Rural Residential acreage is designated within the Community Planning Areas.

²Includes Designated Floodway areas.

This is especially true with industrial land in Colusa and the I-5 corridor. The area shown for future industry in these locations is much larger than the amount needed to meet future job growth according to the employment projections. A wide range of areas suited for industry have been selected so that companies have a greater number of choices when relocating or establishing in Colusa County.

How To Use The Land Use Plan

The county and community land use plans are not intended to be parcel-specific. The land use designations are general and should not be viewed as precise determinations for the use of property. As stated in the Introduction, the general plan map should not be confused with a zoning map. Zoning maps are parcel specific and zoning ordinances set forth specific standards for how land may currently be used. While the zoning map and general plan map must be consistent, their intent is different. Each general plan category permits a range of land uses and a range of residential densities. The plan is long-range and future-oriented. On the other hand, zoning decisions are made on a parcel-by-parcel basis and serve as the method of carrying out the policies of the general plan. The zoning map focuses on the immediate use of the land rather than its ultimate use. Upon adoption of this general plan, the county will begin the task of revising its zoning ordinance to ensure that it reflects new land use policies.

LAND USE CATEGORIES

The nine land use categories shown on the countywide plan map are described below. Additional land use categories are presented in the following chapter to describe different uses within Community Plan Areas (CPA). The land use plan depicts eight CPAs totaling about 14,000 acres. Each of these areas is covered by a more detailed plan map in the next chapter.

Agricultural Uses

Agriculture-General (A-G). Land carrying this designation is generally used for orchard and crop production. Residences in these areas are related to agricultural operations. Countywide, residential densities in A-G areas average one family per 100-400 acres. However, densities are considerably higher in the orchard areas near Arbuckle and Williams and along the Sacramento River. Secondary uses in A-G areas include oil and gas drilling, non-intensive recreation, agricultural industry (processing), and agricultural support uses, provided that these uses do not interfere with the viability of agriculture or create environmental hazards.

The A-G areas are presently zoned "Exclusive Agriculture" and are subject to a 10-acre minimum lot size requirement. The lot size requirement alone is not enough to prevent the conversion of A-G land from farming to very low density residential uses. For instance, 10-acre country homesites are highly marketable in Colusa County, particularly in the orchard areas where foliage is dense. In addition to the minimum lot size requirement, it is imperative that the zoning ordinance specifies agriculture as the primary use of these properties. Subdivision of farms into 10-acre non-agricultural parcels should be strictly prohibited.

In some A-G areas, it may be appropriate to raise the minimum parcel size requirement from 10 acres to 20 or 40 acres. Table LU-7 provides guidelines for rezoning based on the type of agricultural commodity raised. The table identifies the minimum acreage on which a particular type of farming operation is feasible, both for full-time operations and part-time operations. The figures are intended for general guidance only. They demonstrate the importance of maintaining parcels of at least 30 acres to ensure that land continues to be used for agriculture.

The A-G designation has been applied to 419,000 acres in Colusa County, encompassing most of the Sacramento Valley floor as well as the Indian, Bear and Antelope Valleys.

Table LU-7: Typical Acreage Requirements for Farm Operations

<u>Primary Use</u>	<u>Acres Needed: Full-Time Operators</u>	<u>Acres Needed: Part-Time Operators</u>
Field Crops	50-100	10-15
Fruits and Nuts	30- 40	10-15
Apiary	80-100	10-15
Irrigated Pasture	100-200	10-15
Nursery Stock	30- 40	10-15
Vine Seed	50-100	10-15
Vegetables (Tomatoes)	50-100	10-15
Grazing	400-600	40-80

Note: Table is illustrative only and has no regulatory intent.

Agriculture-Upland (A-U). These lands are used for cattle and sheep grazing, and are intermixed with undeveloped, uninhabited forests, chaparral and grasslands. Soils are generally fair to poor and are not conducive to crop production. Residential densities presently average less than one family per 1,000 acres, although the homes are generally clustered along the few roads that traverse the upland areas. Natural constraints--especially wildfire, steep slopes , and the lack of water--make these areas poorly suited for more intensive development.

Land divisions for non-agricultural purposes should be discouraged in these areas to prevent conflicts with ranching and to minimize exposure to natural hazards. New parcels smaller than 80 acres should be prohibited. In some locations, it may be appropriate to raise the minimum lot size to 160 acres. Secondary uses in A-U areas include forestry, mining, and non-intensive recreation. Large-scale subdivision of ranchland into 80-acre parcels should be discouraged; where such development has already been approved, the primary use of the land should remain agriculture.

The A-U designation has been applied to 183,000 acres in Colusa County, encompassing most of the Coast Range foothills.

Upland-Transition (U-T). This designation is used to identify a limited number of areas near Stonyford and Lodoga. These areas are zoned UC-10 (Upland Conservation, 10-acre minimum) and are to be used primarily for ranching and grazing pur-

poses. Because U-T areas lie along the roads traversing the Indian Valley and occupy picturesque surroundings, there is some demand for these areas as large-lot homesites. If access is sufficient, water is available, and the parcels meet the county's slope-density requirements, very low density residences (one unit per 10 acres) are an acceptable use. The intent of the U-T designation is to create a transitional zone between rural-residential areas such as Century Ranch and Stonyford and the very large acreage ranches and wilderness areas. There are 4,700 acres in the county designated for this purpose.

Agriculture-Transition (A-T). This designation is defined in the next chapter. It has only been applied within the Community Plan Areas.

Conservation Uses

Resource Conservation (RC). The RC designation is applied to forests and forested rangelands under federal ownership, to watershed lands requiring management and protection, and to the National Wildlife Refuges. For the area within the National Forest boundary, this land use category complies with the 1986 Land and Resource Management Plan for the forest. Only a small portion of this land has been determined to be suitable for timber harvesting. Other areas are to be used for recreation, chaparral management, wildlife habitat, and wilderness. There are several privately owned parcels within the forest. In addition to forestry, acceptable uses on the private parcels include grazing, mining, non-intensive recreation and very low density residential uses. None of these uses should be permitted unless they are found to be compatible with surrounding uses and consistent with the resource protection objectives stated in the U.S. Forest Service Plan.

Also included as Resource Conservation Areas are the Colusa, Delevan, and Sacramento National Wildlife Refuges. Future use of these areas should follow federal wildlife preserve guidelines. About 20,000 acres owned by the Bureau of Land Management (BLM) and 6,000 acres owned by the Bureau of Reclamation also are designated RC. Most of these areas are managed for watershed protection, plant and wildlife protection, and natural resource conservation. As in the National Forest, acceptable uses on this land include grazing, non-intensive recreation, and mining. All of these uses would be subject to a review of their environmental impact and compatibility with surrounding natural areas.

Designated Floodway (DF). Lands with this classification have been designated as floodways by the State Reclamation Board. Areas between the Sacramento River and the levees are included, as well as the Colusa Bypass between the Sacramento River and Butte Creek.

Communities

Community Planning Areas (CPA). As described above, the plan designates 8 CPAs around Arbuckle, College City, Colusa, Grimes, Maxwell, Princeton, Stonyford, and Williams. Each of these areas contains a combination of residential, commercial, industrial, public, and agricultural land uses. Each CPA contains land that is already developed, land that will be available for development during the next two decades, and land that will remain agricultural during the next two decades.

Rural Service Centers (RSC). The plan designates rural service centers at Sites, Delevan, and Lodoga. These areas are very small, predominantly residential settlements. Growth potential in these areas is severely limited by the lack of urban services. However, all three communities contain a large number of existing vacant lots that are potentially buildable. Additional lot splitting in these areas is strongly discouraged. Commercial and residential uses are acceptable within RSC areas, provided such uses conform to the revised zoning map for each community.

Industrial (I). This category is defined in the next chapter. It is applied primarily to lands within the Community Plan Areas (CPAs) but appears at several locations along Interstate 5 outside the CPAs.

Rural Residential (RR). This category is defined in the next chapter. It is applied exclusively within Community Plan Areas with two exceptions: Century Ranch-East Park Lake View Acres and the area adjacent to the Arbuckle Golf Course.

LAND USE POLICIES

The following pages present general development policies and policies for various land uses in Colusa County. More geographically-specific policies are presented in the Community Plan Element.

General Development Policies

- LU-1 Colusa County should, through its land use regulations, ensure a supply of developable land sufficient to meet projected growth over the planning period.
- LU-2 Future development in Colusa County should be concentrated in the communities of Arbuckle, College City, Colusa, Grimes, Maxwell, Princeton, Stonyford, and Williams.
- LU-3 Future land use decisions should promote compact communities, generally filling in gaps of vacant land between already developed areas before growing outward. Development outside of current city and utility district spheres of influence should be strongly discouraged until the land is annexed to the sphere.
- LU-4 Agriculture and resource management should be the primary land uses outside of the designated communities. Freestanding subdivisions isolated from existing communities and lacking urban services should be prohibited.
- LU-5 The proposed development pattern should recognize non-urban areas which have already experienced some development, such as Century Ranch. Within these areas, service districts should be created or activated to provide services appropriate for their density.
- LU-6 Unless the development will adversely affect town character, higher-density uses should be promoted on vacant lots within existing communities. This will conserve open space outside the community, permit more efficient use of public services, and reinforce the idea that the towns are the center of activity in the county.

- LU-7 The proposed development pattern should protect the scenic values of Colusa County. More restrictive design standards should be developed within the communities to encourage visually attractive development and lessen the visual impact of existing non-conforming uses.
- LU-8 The location of lands designated for future development should be principally determined by natural features, such as soil, slope, and drainage, and by public service availability, such as sewer and water capability.
- LU-9 The proposed development pattern should protect the integrity of agriculture and shall not in any way create a hardship for the county's farmers. Lands presently in agricultural uses that do not adjoin existing communities should be protected through the county's land use regulations. In addition, the CEQA Initial Study checklist should consider the potential impact of proposed development on existing and adjoining agricultural operations and on water supply.
- LU-10 The historic character of Colusa County's towns should be protected. Future "infill" development should respect the architectural style, scale, and qualities of the existing community.
- LU-11 The downtown cores of existing communities should be promoted as the social centers of the communities. To the extent possible, new public facilities such as libraries, post offices, and community centers, should be located in the downtown core.
- LU-12 Potential conflicts between airports or landing strips and surrounding land uses shall be avoided by closely regulating future development in take off and approach zones.
- LU-13 The community land use plans should be used as the basis for public service planning, including schools, libraries, parks, water, sewer, drainage, police, and fire protection.
- LU-14 Appropriate sites for recreational uses should be provided in Colusa County, as long as the activities are compatible with the environment and surrounding uses. Local recreational facilities in unincorporated areas should be paid for by service districts or by developer fees.
- LU-15 The County General Plan shall incorporate all policies and land use plans for the Stonyford-Lodoga area contained in the Area Plan of December, 1983, and the policies and land use plans for the Interstate 5 Corridor study contained in that approved plan of 1985.

Conservation Area Policies

- LU-16 Rough, forested, or mountainous areas where access and services are minimal and good conservation practices are essential should be designated for resource conservation.

- LU-17 Multiple uses (grazing, forestry, and recreation) should be allowed on conservation lands so long as environmental resources are protected.
- LU-18 Public lands in the National Forest and Wildlife Refuges should be protected from encroachment by activities on adjacent lands that could damage environmental quality. Agriculture, in kind, should be protected from encroachment by activities on adjacent National Forest and Wildlife Refuge lands.
- LU-19 A hillside combining zone should be applied as an additional means of determining the minimum allowable lot size in the upland parts of the county. The zone should consider topography, geology, soils, vegetation, wildlife, water supply, recharge and movement of groundwater, septic tank limitations, fire hazards, access, and circulation.

Agricultural Area Policies

- LU-20 Lands designated for General or Upland Agriculture should continue to be used for agriculture for at least the duration of the planning period (1987-2010). Such period may be extended by future revisions of the plan.
- LU-21 The site planning, design, and construction of on-site and off-site improvements for urban development near agricultural areas should avoid adverse impacts on facilities used to supply water to agricultural operations. Where agricultural and proposed urban uses are competing for the same water supply, priority should generally be given to agriculture.
- LU-22 Rural-residential development should not be permitted in areas designated for General Agriculture.
- LU-23 Freestanding industries in agricultural areas shall be limited to those necessary to produce, process, and distribute agricultural commodities.
- LU-24 Low-intensity recreational uses may be permitted in agricultural areas as long as these uses do not interfere with the principal use of the land for agricultural purposes. Examples of low-intensity recreational uses include hunting, fishing, target shooting, riding, hiking, boating, and the exhibition of working farms or ranches.
- LU-25 Exploration and extraction of oil, gas, and other mineral resources should be conducted in such a way that conflicts with agricultural uses are minimized and permanent interference with agricultural operations is avoided, and in a way that is consistent with the land use compatibility requirements of the Williamson Act, for those lands that are now under contract.
- LU-26 Residential uses accessory to agriculture may be permitted in agricultural areas provided such housing is limited to family members or farm labor housing. Modifications to the county zoning ordinance should be undertaken to specify the number of dwelling units that may be constructed per full-time and part-time farm operation. Family member or farm labor residences should be located in the same immediate vicinity as the existing residence, if this is practical and environmentally sound.

Family member residences accessory to full-time operations should not be located on separate legal lots created for this purpose.

- LU-27 Farm labor housing which includes both annual and seasonal employees should be permitted in quantities appropriate to the type of agricultural operation and should not be located on separate legal lots created for this purpose. Proposals to construct farm labor housing shall require a use permit.
- LU-28 Preservation of agricultural land under the Williamson Act should be an option available to all those who qualify.
- LU-29 The county should work with property owners of small-lot "paper" subdivisions or partially developed townsites in agricultural areas to merge lots to meet minimum parcel standards.
- LU-30 The impacts of State environmental legislation on farming and future industry in Colusa County should be studied to determine options for apportioning the cost of water quality improvements and waste disposal.

Residential Land Use Policies

- LU-31 Sufficient vacant areas should be designated for residential development to meet the housing demand that can reasonably be expected from new local industry. To the extent possible, areas of future residential development should be located proportionally to those areas where future jobs are expected. This recommendation is made to reduce commute times and encourage a balance between new jobs and new housing in each community. Areas designated for future residential growth should include sufficient land for the dedication of school and park sites.

- LU-32 The following guidelines should be used when evaluating proposed residential development:

Rural Residential: Areas designated "rural residential" should not be developed until the following requirements are met:

- o the soil is determined to be suitable for septic tank use by the Environmental Health Department
- o groundwater is determined to be sufficient to support a well by the Environmental Health Department
- o the parcel can be made accessible from a public street
- o it can be demonstrated that the development will not have a detrimental effect on adjoining properties
- o the area is accessible for fire protection and can meet fire resistance guidelines if located in a high hazard area.

Urban Residential: Areas designated "urban residential" should not be developed until the following requirements are met:

- o the community utility systems, including water, drainage, and sewer, if available, can accommodate the added demand
- o the area has access to a major transportation route

- o the impact of the development on local streets can be mitigated
 - o adequate fire protection measures are provided
- LU-33 Clustering of housing and planned unit developments within communities should be encouraged so that larger areas of open space may be permanently preserved.
- LU-34 Areas designated for future residential development should be selected so that potential conflicts with agricultural operations are minimized.
- LU-35 Residential uses shall be discouraged in areas of excessive noise, smoke or dust, especially in those areas adjoining freeways. Transitional or buffer uses shall be encouraged between residential and industrial or agricultural uses.
- LU-36 All new parcels created for residential use should have frontage on a road built to county standards.

Commercial Land Use Policies

- LU-37 Areas designated "commercial" should not be developed until the following requirements are met:
- o the area can be readily hooked up to public water facilities;
 - o the community utility systems can accommodate the added demand;
 - o the area has access to a major transportation route;
 - o the impact of the development on local streets can be mitigated;
 - o adequate fire protection measures are provided;
 - o the development does not result in a commercial "strip".
- LU-38 Downtown retailing should be actively promoted. Development of vacant lots within existing commercial districts should be encouraged before shopping areas are built on the periphery of communities.
- LU-39 Commercial "strip" development should be permitted only in those areas where such development already exists.
- LU-40 Where possible, "heavy" commercial uses such as auto salvage yards, truck parking lots, and farm implement sales yards should be visually screened from residential uses. Concentrations of such uses on scattered parcels at the approaches to communities should be discouraged.
- LU-41 Interstate 5 freeway interchanges at Arbuckle, Maxwell, and Williams should be used for highway-oriented commercial uses. These uses, which include hotels, restaurants, and service stations, should be oriented to interstate travelers. Development at these interchanges should be planned so that traffic on local streets is minimized and traffic safety is ensured. Permanent highway commercial uses (excludes roadside produce stands, etc.) should be discouraged outside of existing communities.
- LU-42 Adequate off-street parking should be provided for all new commercial establishments. Parking standards in the county zoning ordinance should be reviewed to ensure that provisions are sufficient.

- LU-43 Commercial buildings, landscaping, and signage should be designed to be compatible with surrounding uses and should not detract from the character of existing communities.

Industrial Land Use Policies

- LU-44 The County Chamber of Commerce, Farm Bureau, Board of Supervisors and Economic Development Commission should work together to determine the types of business and industry appropriate to enhance the county's economy, and endeavor to bring such industries into the county. First priority should be given to businesses that are compatible with Colusa County agriculture and that enhance the quality of life in Colusa County.
- LU-45 A supply of industrial land commensurate with the objective of attracting a wide array of manufacturing and agricultural support uses should be shown on the General Plan land use map.
- LU-46 Areas designated "Industrial" should not be developed until the following requirements are met:
- o the area can be readily hooked up to public sewer and water facilities where these facilities are available, or to private sewer and water facilities where utilities do not yet exist;
 - o if the industry uses community utilities, that community systems can accommodate the added demand;
 - o if the industry is to be served by groundwater wells, that reliable, scientific data be presented that will assure that groundwater will be available under all conditions, including drought, that the wells will not have an appreciable adverse effect on the quality and quantity of existing domestic and agricultural water supplies, and that private sewage disposal systems meet Environmental Health Department standards;
 - o the project will not significantly contribute to air, water, and noise pollution;
 - o the area has access to a major transportation route;
 - o the impact of the development on local streets can be mitigated;
 - o the area is located within 10 minutes of a fire station or can provide its own fire protection independently.
- LU-47 Future industrial development should be concentrated in areas with direct access to rail, interstate, air, or state highway transportation facilities.
- LU-48 To the extent possible, future industrial development should occur within master-planned industrial park developments adjoining existing communities. These developments should be designed and landscaped so that they are integrated with their surroundings and do not reduce the visual qualities of the adjoining communities.
- LU-49 New industrial uses shall be discouraged in established residential neighborhoods.
- LU-50 Increases in public service costs that occur as a result of industrial development should be paid for by that development.

Land Use Implementation Policies

- LU-51 Following the adoption of this plan, the county zoning ordinance, development standards, and zoning maps shall be revised or created to conform to the updated plan.
- LU-52 Cooperation and coordination between the city councils of incorporated cities and Colusa County shall be encouraged. Proposed projects outside the primary spheres of influence but within three miles of the city boundaries of Colusa or Williams shall be jointly reviewed by the appropriate city and the county.
- LU-53 Annexation of land outside the spheres of Williams and Colusa should be prohibited during the time frame covered by this plan. Sphere of influence boundaries should be reviewed every five years to determine if boundary amendments should be considered.
- LU-54 The County and cities of Colusa and Williams should work cooperatively to develop consistent plans for the city spheres of influence.
- LU-55 The County General Plan shall be regularly updated and monitored to ensure that its policies still reflect public sentiment about the desired character of their communities.
- LU-56 The county should work closely with the cities, public utility districts, fire districts, and other special districts in developing programs for future capital improvements. Likewise, the cities of Colusa and Williams should work closely with the county in developing their capital improvement programs.
- LU-57 In those instances where development is appropriate as provided in Policy OS-1*, development shall occur only as planned developments or under specific plans (G.C. 65450). Nothing herein is intended to prohibit those uses defined in Land Use Policies LU-23 through LU-27 inclusively.

* Policy OS-1 (Open Space Element) indicates that areas designated for Resource Conservation, Agriculture-General, and Agriculture-Upland should remain in open space unless development would be consistent with community plans or land use policies (LU-1 through LU-56).



Community Plan Element

COMMUNITY PLAN ELEMENT

"The winds of fate, which blow business and population from one town to another and sometimes play strange tricks with bustling communities, have left these places to one side of the current of life, where they dream in quiet somnolence."

History of Colusa County
McComish & Lambert, 1918

ORGANIZATION OF THE COMMUNITY PLAN ELEMENT

This chapter is intended as a supplement to the the Land Use Element. While that Element prescribed broad policies for the county as a whole, this Element focuses on future land uses within the eight communities of Colusa County. For the incorporated cities of Colusa and Williams, the plans focus on the areas outside the city limits. Each of these cities will soon update their own general plans, identifying future land uses within their corporate limits. Land uses within the two cities are shown in a generalized manner on the plan maps to illustrate the relationship between each city and its sphere of influence.

This chapter begins with a description of the process used to develop each community plan. This is followed by a definition of the land use categories that appear on the plan maps. A narrative for each community is then presented, starting with Arbuckle and proceeding alphabetically to Williams. Each narrative contains a brief history of the community, followed by a description of present and future land uses. Future land use maps and development policies are presented for each community.

BACKGROUND

DEVELOPING THE COMMUNITY PLANS

How Much Land Is Needed For Development?

The Community Plans were developed through a three-step process. After projecting that the county's population would increase by 8,500 people by the year 2010, the first step was to distribute this increase to individual towns and rural areas. The second step was to convert the projections for each town into an estimate of housing demand, and to determine how many acres were needed in each town to support that demand. The third step was to identify areas within each town which could accommodate the projected housing demand. These areas were mapped and then evaluated to determine which were most suitable for housing. Acreage requirements for housing and related public uses are shown in Table CP-1.

Table CP-1: Residential Acreage Requirements, 1987-2010

	Projected Housing Units Needed, 1987-2010 ¹ (upa = units per acre)				Acres Needed				
	Multi-Family	Single-Family	Rural Res.	Total	Multi-Family	Single-Family	Rural Res.	Related Uses	Total ²
	<u>12.0 upa</u>	<u>3.8 upa</u>	<u>0.8 upa</u>		<u>Family</u>	<u>Family</u>	<u>Res.</u>	<u>Uses</u>	
Arbuckle	58	462	64	584	5	122	80	25	2
College City	--	--	20	20	--	--	25	--	
Colusa (incl. SOI)*	110	544	124	778	9	143	155	30	3
Grimes	--	25	14	39	--	7	18	1	
Maxwell	28	327	53	408	2	86	66	18	1
Princeton	--	25	14	39	--	7	18	1	
Stonyford-Lodoga	--	--	78	78	--	--	98	--	
Williams (incl. SOI)*	144	979	199	1,322	12	258	249	54	5
Rural Farm Areas	--	--	<u>117</u>	<u>117</u>	--	--	<u>146</u>	--	1
GRAND TOTAL	340	2,362	683	3,385	28	623	855	129	1,6

*SOI = sphere of influence

¹ Based on population projections cited in the previous chapter, an assumed household size of 2.7, a vacancy rate of 5%, and the following countywide distribution of house type: single family (70%), multi-family (10%); rural residential (20%)

² 20% allowance within multi-family and single-family areas for future schools, parks, churches, and other public/semi-public facilities not shown on land use plan

The process for identifying future commercial and industrial areas was slightly different. Rather than basing the supply of these areas on the demand for land, the plans reflect the strong desire to provide as wide a range of development sites as possible for prospective industries. Consequently, the industrial acreage shown in the plan is much more than what the market can absorb in the next 25 years. Industrial areas were selected based on their visibility, access to the freeway, access to the railroad, useability for farming, and distance from residential areas. Commercial areas were selected based on similar criteria, although rail access was unimportant and proximity to residential areas became an asset rather than a constraint.

Where Should New Residential Areas Be Located?

Within each community, the suitability of land for residential development was evaluated based on the following criteria:

- o Susceptibility to flooding
- o Suitability of the soils for agriculture
- o Suitability of the soils for building and road construction
- o Suitability of the soils for septic tank and well use
- o Proximity to active large-scale farm operations
- o Slope and landslide potential
- o Compatibility with surrounding land uses
- o Existing parcelization and ownership patterns
- o Proximity to public sewer, water, and storm drainage systems
- o Proximity to schools and parks
- o Proximity to fire stations
- o Access and traffic volumes
- o Current zoning
- o Local attitudes towards the direction of the town's development
- o Proximity to noise sources, such as the freeway or rice dryers
- o Proximity to airports or landing strips
- o Potential impact on riparian areas or wildlife habitat

Relationship between Land Supply and Land Demand

In all communities, a larger amount of land than is actually demanded has been designated for future urban uses. This has been done for the following reasons:

- o To provide some flexibility for the development community and ensure that an adequate range of development sites are available;
- o To recognize that not every landowner with land designated "UR", "C", or "I" intends to develop his or her property before the general plan horizon year; and
- o To recognize that not every parcel will build out to the maximum density allowed by the zoning ordinance.

The "oversupply" of land varies in each community, and with each land use. As mentioned earlier, the excess is greatest for industrial land uses. This is part of a deliberate economic development strategy that has been endorsed almost unanimously by the General Plan Committee. The oversupply means that within the industrial areas, development will need to carefully managed to avoid "leapfrogging", costly utility extensions, and overbuilding.

Within residential areas, land supply exceeds 25-year demand by about 60 percent, although the difference is larger in some communities and smaller than others. The margin is greatest in those communities expected to have the largest population increases and in towns with large vacant areas that were subdivided many years ago. Although some oversupply of residential land is healthy, too much oversupply can defeat the purpose of the plan. If the supply of vacant residential land bears no relationship to demand, the result will be urban sprawl and development at much lower densities than those desired.

LAND USE CATEGORIES

Agricultural-Transition Area (A-T). The intent of the A-T designation is two-fold: first, to recognize areas where land has already been subdivided into small parcels (less than 10 acres) for ranchettes, part-time farms, and orchards; and second, to identify vacant areas which may be suitable for urban uses in the future but which are not suitable at this time due to a lack of urban services and their distance from the established community.

In the former case, the designation recognizes that large-scale agricultural operations are no longer feasible in some areas due to small parcel size or proximity to existing urban centers. In such instances, the A-T areas serve as transition zones between urban areas and the large-scale farms beyond.

In the latter case, the designation is intended as a "holding zone" for eventual urban development. It may be appropriate to redesignate these areas for a more intense use at some time within the planning period, depending on market demand and development trends within the county. Designating all of the A-T areas for development at this time would be inappropriate since an oversupply of land would result (an oversupply would reduce the effectiveness of the plan, encourage urban sprawl, and raise urban service costs).

Until the A-T areas are redesignated for other uses, they should serve as a buffer zone between urban areas and large-scale agricultural operations. Because these areas are regarded as locations for long-term development, it is important that they are not extensively subdivided into small "ranchette" parcels over the next 20 years. Development patterns which would prevent these areas from ultimately being urbanized should be avoided. Rezoning of A-T areas to allow more intense uses would be inappropriate at this time.

Rural Residential (RR). This designation provides opportunities for semi-rural living (at an average density of one house per one to ten acres) within Colusa County. Rural residential uses are planned in those areas where land ownership and parcel patterns have already precluded the use of the land for agriculture, and in the area southwest of Maxwell. The rural residential areas are located immediately adjacent to the county's six major communities and on partially developed non-sewered townsites such as College City. Also included are remote non-sewered subdivisions such as Century Ranch. An important objective of the General Plan is to preserve the attractive low-density character associated with these areas.

Like the A-T areas, rural residential areas form a buffer between urban uses and farmland. While the primary activity on A-T lands is farming, the primary use of RR parcels is housing. RR parcels are usually large enough for backyard gardening or

raising horses, but their owners do not derive their living from these activities. RR parcels are usually much smaller than A-T parcels--sometimes no larger than a city lot as in College City. They are distinguished from Urban Residential parcels by the lack of a central sewer system. This same characteristic limits the development potential of rural residential areas.

Because of the health hazards associated with small lot septic systems, new parcels smaller than one acre should not be permitted in rural residential areas. However, there are several existing RR areas with lots smaller than one acre that will continue to develop over the next 20 years. Depending on the rate of development in these areas, construction of central sewer may eventually become a necessity.

Urban Residential (UR). This designation applies to areas where domestic sewer and water systems are available or can be made available to support residential development. Densities are generally one to five families per acre. However, since UR areas include apartments and mobile home parks, densities may be much higher in limited locations. Each UR area contains a range of zoning classifications, from the R-1 single family district to the R-4 apartment district.

The Urban Residential designation includes both existing residential neighborhoods and agricultural or undeveloped areas which are suitable for future development. The undeveloped areas are characterized by soils, slopes, and flood conditions that do not constrain residential development. They are usually contiguous to community sewer and water lines.

Residential development is the primary use in these areas, along with public support uses such as schools and parks. Agriculture is an acceptable interim use of any site with this designation. As these areas are developed, it is imperative that sufficient land is dedicated for public purposes, namely schools and parks. Individual school and park sites are not identified on the Community Plan Maps.

Industrial (I). Lands designated "industrial" fall into two categories: existing industrial areas and vacant areas designated for industrial parks. The existing industrial areas contain agricultural support uses such as irrigation pipe yards, grain storage warehouses, rice dryers, and packing and distribution facilities. These areas generally adjoin the railroad in Arbuckle, Williams, or Maxwell or the abandoned railroad ROW in Colusa and Grimes.

The second category includes planned industrial areas in the I-5 corridor and the Colusa sphere of influence. Such areas are served by rail, interstate, or state highway and have high visibility. In the I-5 corridor, these lands are often located in the strip of land between Old Highway 99 and I-5. In Colusa, they include the Colusa Industrial Properties project and lands south of Pirelli Cable. In Williams, they include the Williams Industrial Properties project and large tracts between Husted Road and I-5. These areas are to be developed as master-planned industrial subdivisions rather than on a piecemeal basis.

In some cases, it may be appropriate to prepare specific plans or design guidelines that establish standards for the development of the planned industrial areas. Such plans could establish landscape requirements, setbacks, road standards, and architectural standards to ensure these areas were visually attractive and developed in an orderly manner.

Commercial (C). Commercially-designated areas include central business districts, highway commercial areas, hotels, offices, restaurants, shopping centers, and heavy commercial uses such as farm implement sales and auto salvage yards. The designation includes both built-up commercial areas and vacant areas suitable for commercial development.

Policies in the Land Use Element prohibit the development of commercial "strips" along the county's roadways. Consequently, future commercial areas are concentrated around major roadway intersections, namely at freeway interchanges in Arbuckle, Williams, and Maxwell, and at several locations along Highway 20 in Colusa. Most of the new commercial areas have been sited to serve interstate traffic. An effort has been made to focus local shopping in the existing downtown areas. All of the central business districts in Colusa County's communities have large pockets of vacant or underutilized land which should be infilled before retail uses are developed on the periphery of town. As an incentive to encourage downtown retailing, parking may need to be improved in some of the designated commercial districts.

Public and Semi-Public Services (P-S). This category includes schools, libraries, churches, fire and police stations, corporation yards, water and sewage plants, migrant labor camps, lodges, electric power substations, and airports. The category only applies to existing public uses since the exact locations of schools, utilities, parks, etc. will be determined as each respective community develops. Sites for such facilities should generally be provided within land designated for "Urban Residential" uses. Each "UR" area shown in the Community Plans contains enough vacant land to meet 25-year housing demand as well as demand for new public uses.

Parks and Recreation (P-R). Areas designated P-R include golf courses, city, community and state parks, fairgrounds, and other recreational areas. At the present time, all of the P-R areas are within communities. As in the case of public services, specific sites for future community parks are not presented on the land use map, but ample room has been provided in future residential areas for such parks. Acreage standards for parks are provided in the Recreation and Open Space Element of this plan.

COMMUNITY PLANS

EXISTING LAND USE

As part of the General Plan Update, an existing land use survey was completed for the eight community planning areas. Existing land use maps are contained in Appendix A. Existing land use data for the communities is summarized in Table CP-2.

ARBUCKLE

History

Arbuckle is one of three Colusa County towns founded during the northern extension of the Southern Pacific Railroad in the late 1870s. When College City turned down the opportunity for a rail depot in 1875, Missouri farmer Tacitus Arbuckle invited the railroad to his 7,320-acre farm three miles to the west. Arbuckle donated the land

Table CP-2: Developed Acreage Summary

	Acres Developed					
Land Uses:	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Public/ Semi-Public</u>	<u>Parks/ Recreation</u>	<u>Total</u>
<u>Community</u>						
Arbuckle	174	12	19	49	29	283
College City	22	1	4	--	4	31
Colusa SOI	742	79	156	101	143	1,221
Grimes	45	3	12	8	--	68
Maxwell	120	8	17	17	--	162
Princeton	40	2	2	16	--	60
Stonyford	70	2	--	15	18	105
Williams SOI	308	87	86	75	17	573
COUNTY TOTAL	1,521	194	296	281	211	2,503

SOI = Sphere of Influence

the depot and sidings, laid out a townsite, and began selling 25' x 115' lots for \$25-50 each. By 1876, the community had 300 residents. Around town, landowners offered farmers up to 5 years free use of their land as an incentive to clear the land of chemise brush and render it suitable for crop production.

Arbuckle became a lively commercial center by the turn of the century. Its business district served wheat, sorghum, hay, bean, and barley farmers from the surrounding area, as well as wildcatters drilling for oil in the nearby foothills. The town was markedly different than neighboring College City, where drinking and gambling were strictly prohibited.

Much of the cropland around Arbuckle was planted with almonds during the early 1900s. Although only 150 acres were in almond orchards in 1911, about 11,000 acres had been planted by 1933. The increase in almond production was accompanied by extensive land subdivision to the south and west of town. Because almonds could be grown profitably on smaller parcels than field crops, large areas (such as the Red-dington Ranch and Almondale subdivisions) were split into 10, 20, and 40 acre parcels. Today, these same parcels are in high demand as "hobby farms" or ranchette sites for families seeking country living places.

In 1926, Arbuckle became a designated test area for guayule (rubber plant). However, large-scale planting of guayule in the fields around town did not begin until World War II, when a Federal Emergency Rubber Project was initiated as part of the war effort. Ten-year guayule leases were obtained by the U.S. Forest Service on 5,300 acres near Arbuckle. The plants failed to produce and were plowed up in 1944. Left behind were barracks that had been built to house the 400 men working on the federal project. The barracks were converted to a Prisoner Of War camp for captured German soldiers; soldiers detained in the camp would work in the area's almond orchards by day and return to their quarters at night. In 1948, the camp was sold; it was used as a farm labor camp until 1976 when it was condemned because its failing septic system posed a threat to Arbuckle's water supply. Today, the 20-acre Camp site is mostly vacant and is considered a likely area for future residential development.

Arbuckle's commercial district entered a long period of decline beginning with the construction of Interstate 5 in 1957. The Interstate bisected the town, diverting through-traffic away from Fifth Street (Old Highway 99W) and dividing the town into "east and "west" halves. The downturn in the farm economy has also affected many of the town's businesses. However, large increases in the town's population have created the demand for new retail and service establishments. In fact, Arbuckle was the fastest growing community in Colusa County between 1970 and 1985. During this period, its population grew from 1,037 to 1,700, a more than 60 percent increase.

Land Use Analysis

Central Area. Arbuckle's current land use pattern reflects its origin as a railroad depot and agricultural processing center. Grain warehouses, almond processing facilities, farm implement dealers, and fertilizer outlets are among the land uses abutting the railroad. Some of the storage and processing buildings are vacant and are in poor condition. Several parcels are vacant or are used for farm equipment storage. One-half block to the west and parallel to the railroad, Fifth Street is the town's principal commercial district. The business district extends for about five blocks along Fifth Street between the railroad and the Interstate. The area is characterized by one and two-story masonry buildings dating from the early 1900s, in-

cluding the Oddfellows Hall, the Reddington Block, and the Arbuckle Hotel, and by more contemporary buildings such as the Post Office, an auto parts store, a grocery store and a bank. Many of the older buildings are vacant or underutilized.

North and south of the business district, the area between the Interstate and Fifth Street is predominantly residential. The Central Area includes about 30 single family homes and 18 apartments. Each of the Arbuckle freeway interchanges (north and south of town) is adjoined by a gas station and vacant commercially-zoned land.

East Arbuckle. East of the railroad, a grid of streets eight blocks long and between two and five blocks wide comprises "East" Arbuckle. This area is mostly residential, consisting of about 200 single family homes. The development pattern follows the 1875 town plan, although nearly all of the original 25' x 115' lots have been consolidated into larger lots. Most of the lots are 50' to 75' wide, with mid-block alleys forming the rear lot lines. The blocks typically contain one or two vacant lots; these have proven to be popular sites for "infill" housing during the last few years. East Arbuckle also contains a church, a county road department lot, water district offices, and about a half dozen semi-rural residences. Some of the rural residences are on parcels which could potentially support additional dwellings.

The edges of East Arbuckle are characterized by abrupt transitions from residential to agricultural uses. The east-west streets terminate at a sugar beet field which runs the length of the community. Sugar beet fields also extend to the north, while land to the northwest and northeast is planted in orchards. The sharp distinction between farm and non-farm uses helps to visually define the boundaries of the town, especially along its eastern edge. Because it is surrounded by large acreage farms, East Arbuckle has remained a relatively compact community.

West Arbuckle. Like East Arbuckle, the west side is largely residential. However, lots in West Arbuckle are generally larger and the housing stock is much newer. Only a small portion of the west side lies within the original townsite. Most of the development is contained in newer subdivisions developed after the completion of the Interstate. The development pattern is less concentrated than the east side with several pockets of vacant land and orchards surrounded by housing. The west side also contains the Arbuckle Elementary School, the Pierce High School/L. G. Johnson Junior High School campus, a 6-acre community park, a PG&E substation, the public library, and three churches.

The area contains about 330 residences, including 50 multi-family units in the Alexander Apartments and 134 homes in the Almond Paradise Subdivision. More than one-half of the west side's housing has been built since 1975. Two areas of the west side are underutilized and could potentially redevelop during the next 20 years. Both the Alexander's Camp (vacant farm labor camp) site and an irrigation pipe yard between King Street and Hillgate are adjoined by residential uses and are well-situated for development.

Construction of the Almond Paradise subdivision in 1981-84 marked a change in the development pattern and appearance of Arbuckle. The subdivision was the town's first large-scale development and does not have the diversity of architecture that characterizes older Arbuckle neighborhoods. Since the project is not contiguous to the older community and its landscaping has yet to mature, Almond Paradise seems to stand by itself. About 60 acres of orchards lie between the subdivision and the town. Future development in this area will help integrate Almond Paradise with the rest of Arbuckle.

Proposed Land Use Plan

The year 2010 plan for Arbuckle discourages interference with surrounding farmland by focusing growth on land that is already bounded by streets or existing development. Most residential growth will be on the west side of town, north of Hillgate Road between Almond Avenue and the freeway. Over 100 acres of land in this area has been set aside for future housing. Future residential areas are also shown at the southwest corner of Hillgate Road and Wildwood Road and north of Laurel Street on the East Side. The plan maintains a well-defined edge on the East Side between the developed area and the open farmland beyond. A planned rural residential area is shown west of the high school, forming a transitional use between the school and the large farms south and west of town.

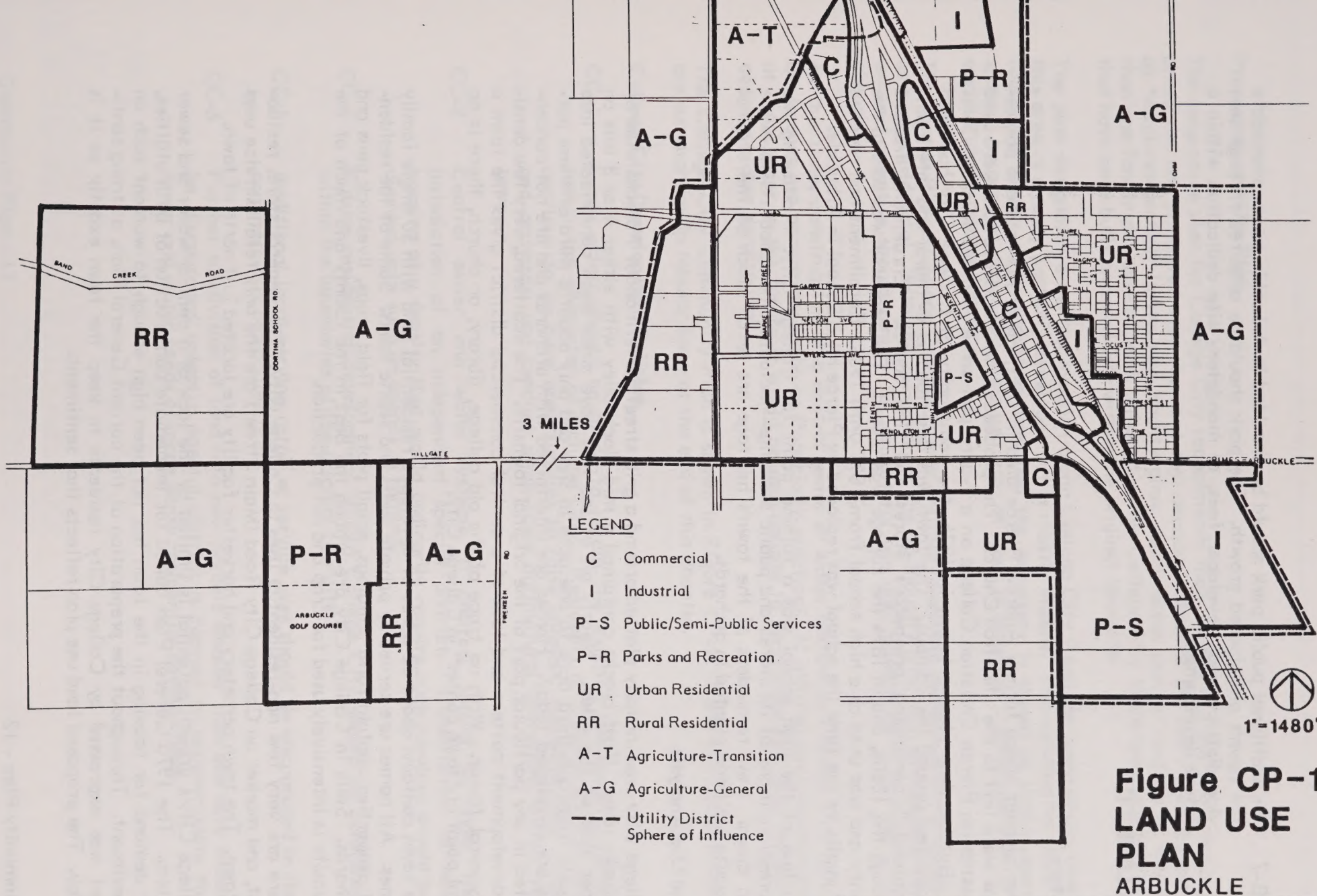
Commercial growth is to be encouraged in the downtown area, especially on vacant parcels and in vacant buildings along Fifth and Sixth Streets. Several new commercial areas have been designated at the two freeway interchanges. These would primarily serve interstate travelers, but would also serve local residents.

Areas for new industry are shown on the east side of Interstate 5 south of Grimes-Arbuckle Road and north of Gail Avenue. These areas adjoin the railroad and have good access to the freeway interchanges. The existing agricultural processing uses along the railroad in the center of town would remain, with new agricultural support or industrial uses allowed to locate on vacant parcels within the industrial area.

The Arbuckle Community Plan is shown in Figure CP-1. The acreage in each land use category is contained in Table CP-3, at the end of this chapter.

Arbuckle Development Policies

- ARB-1 Future development in Arbuckle should be encouraged within the utility district sphere of influence.
- ARB-2 Highway-oriented commercial uses shall be promoted at the north and south freeway interchanges. Downtown shall remain the primary local retail and service center. Efforts to refurbish and re-use historic downtown buildings should be promoted.
- ARB-3 Redevelopment of the Alexander Camp site should be a first priority location for new housing. Additional multi-family housing should be encouraged on the part of the site near the existing Alexander Apartments.
- ARB-4 Infill of vacant land with residential uses should be encouraged within the utility district sphere.
- ARB-5 Vacant land between Almond Paradise Subdivision and the Arbuckle town-site should eventually be infilled with residential uses.
- ARB-6 Additional residential development adjacent to the freeway shall be discouraged. Where such development already exists, the possibility of further noise insulation through sound walls or planting screens should be explored.



- ARB-7 An additional public park should be provided in Arbuckle to accommodate the town's anticipated growth. The park should be acquired through service district fees, developer fees, or mandatory site dedication within a future development.

COLLEGE CITY

History

When pioneer sheep farmer Andrew Pierce died in 1871, all of his land and possessions were left to the Christian Church. The proceeds from his estate sale were used to establish Pierce Christian College on a 9-acre plot some 14 miles south of Colusa. By the time classes began in 1874, the community of College City had been established around the campus. The town was described as a "moral and intelligent community" containing prosperous stores and fine homes. Enrollment dropped through the 1880s, and in 1894 the college was closed. The property was sold to the county and was used as a high school from 1897 until 1936. Enrollment had reached 162 pupils by the time the school was replaced by Pierce High School in Arbuckle.

The loss of the high school was a turning point for College City. Following the Depression, many of its stores and public buildings--including the school itself--were torn down. Few reminders of the town's heritage are left. Much of the original townsite has been planted in orchards.

Land Use Analysis

College City was initially platted around a grid street pattern about 7 blocks wide by 8 blocks long. Most blocks contained a mid-block alley with either 4 or 8 lots on either side of the alley. Nearly all of the lots have since been consolidated into parcels from one-third acre to one acre in size and only about a third of these parcels are developed today. Homes are intermixed with orchards and are not concentrated in any particular part of the original townsite. The scattered, very low density development pattern and lack of a central commercial district gives the town a very rural flavor. With no trace of the old college, library, or church, there is no focal point or "town center" in College City.

The town contains about 22 acres of developed residential land with 50 single family homes. All homes are served by private wells and septic tanks. Some of the residential properties contain farm buildings, small plots for field crops, livestock pens and orchards. Soils in College City are among the best in the county and much of the townsite is intensively used for crop and nut production.

There are very few non-residential uses in College City. The general store, restaurant, and market on College City Road (Main Street) are the only retail-service uses in town. The town cemetery and harvester facility are located just north of town.

College City's growth potential is limited by the lack of a central water and sewer system. The 1970 General Plan called for immediate construction of both utilities, but demand for housing in the town has not been high enough to warrant such an investment. Throughout the preparation of the current General Plan, a strong sentiment was expressed by College City residents to keep the town exactly as it is today. The proposed land use plan reflects that sentiment.

Proposed Land Use Plan

The long-range plan for College City recommends that the town's rural character be preserved and protected over the next two decades. Most of the town is called out as "rural-residential" in the new county plan. Such areas usually contain no more than one family per acre of land, although within College City there are many homes that have been built on small lots within the original townsite.

The plan designates a central location along College City Road for commercial use; this area is already partially developed but is mostly vacant. The existing harvester facility is shown as an industrial use, and the cemetery is shown as public open space. An area of about 100 acres just east of town is shown as a potential site for agriculturally-related industry.

The former Pierce College Campus is now entirely in private ownership and is shown as rural-residential. With the exception of the ag-industry site, land surrounding the original townsite should remain in agricultural use until conditions in College City change.

At this time, construction of a central sewer or water system by College City residents does not appear desirable or financially practical. If utilities are constructed at some point in the future it would be appropriate to reconsider this plan and encourage higher density uses.

The College City Community Plan is shown in Figure CP-2. Land use designations are summarized in tabular form at the end of this chapter.

College City Development Policies

- CC-1 Every effort should be made to retain the existing low-density, rural-residential character of College City. Residents of College City should continue to have opportunities to raise animals, cultivate field crops and orchards, and conduct small-scale agricultural operations within the town.
- CC-2 Central sewer and water systems, if desired, should be under the jurisdiction of an independent special district. Construction of new housing at a density that would ordinarily require such services should be avoided until such an agency is formed.
- CC-3 Future residential development within College City should be contained within the boundaries of the original townsite.
- CC-4 Additional local-serving retail or service uses should be encouraged in the commercially designated area.
- CC-5 Further subdivision of land into new parcels smaller than one acre should be discouraged unless a special district is formed to accommodate the sewer and water needs of more dense residential development.

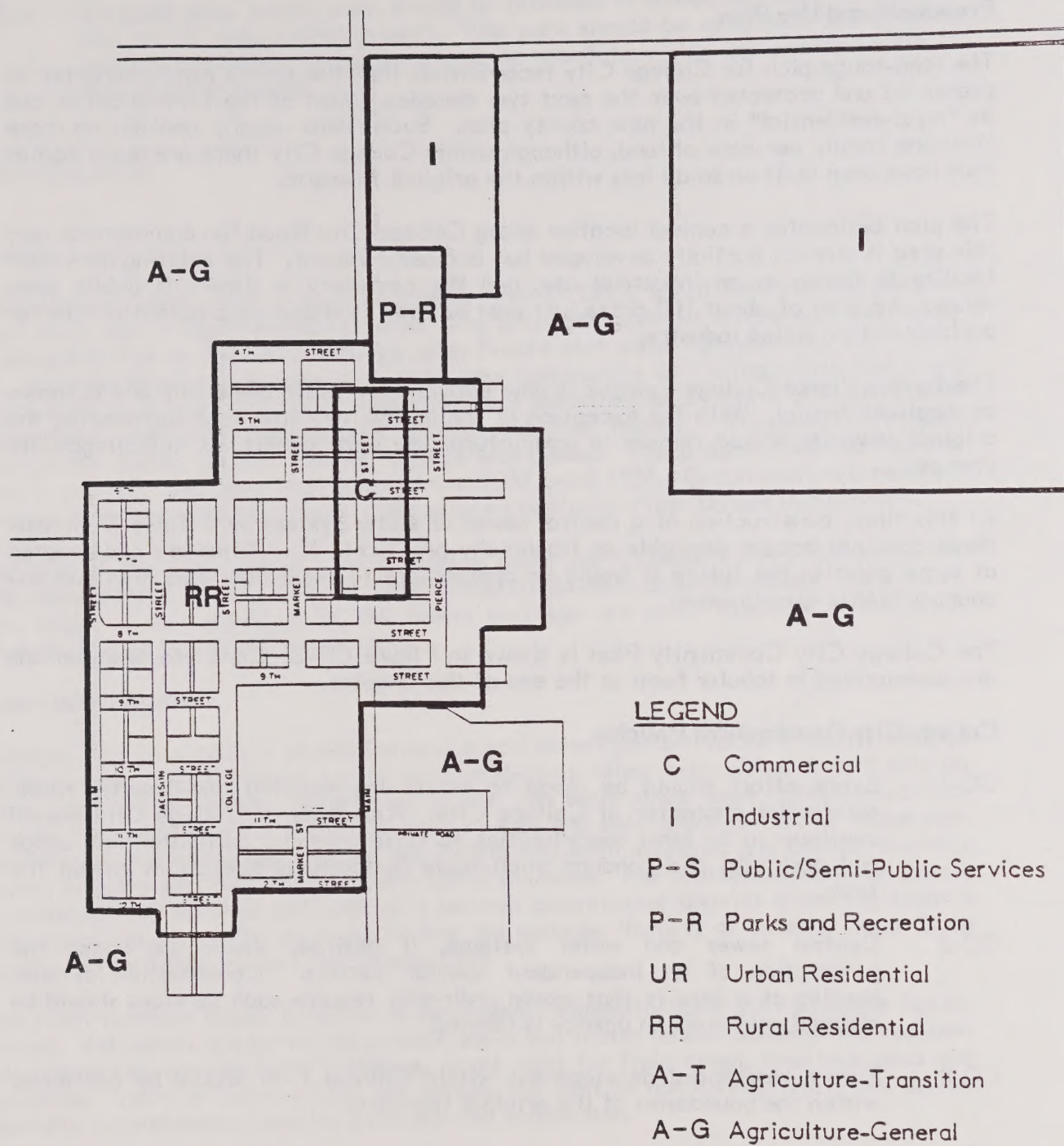


Figure CP-2
LAND USE PLAN
 COLLEGE CITY



1"=790'

COLUSA COUNTY GENERAL PLAN
 Sedway Cooke Associates

History

Much of the county's early history is centered around Colusa, the seat of county government, culture, and commerce from gold rush days to the present. The city was laid out on the site of Coru, an Indian village contained within a Mexican land grant deeded to American explorer John Bidwell. Bidwell sold his 8,875-acre land grant to Colonel Charles Semple of Kentucky in January, 1850. Semple, his nephew Will Green, and carpenter E. Hicks arrived in July, 1850. The three men laid out the town along a grid thirteen blocks from east to west and twelve blocks from north to south. Streets were drawn right-angled to the riverbank rather than along compass points. By the end of 1850, the town consisted of a small wood-frame bar and store, with a half-story hotel overhead. The streets that had been surveyed by Green and Semple remained on paper until merchants and settlers bought lots and cleared the wagon roads to their properties.

The city's early future depended on its designation as the county seat and its establishment as the head of the navigable Sacramento River. It succeeded on the first count in 1853, after local voters chose Colusa over Monroeville (33 miles up-river) as their government seat. The city achieved its second objective during 1851 and 1852 when Colusa became the river terminus during the biggest gold-producing years in California history. However, success was short-lived. When the river was deepened as far north as Red Bluff in 1853, businesses failed and merchants tore down their shops to sell the lumber. With the advent of agriculture in the valley and the end of the mining boom, Colusa regained its prominence as a shipping center. It was the effective head of navigation for wheat barges during the 1860s and 1870s.

The city was incorporated in 1868. Although incorporation attempts had been tried as early as 1855, it took chronic problems such as squealing pigs and public drunkenness to persuade townspeople to establish the city. Shortly after incorporation, downtown streets were graded and gutters and sidewalks were added. Still, not all were satisfied. In 1872, an attempt to disincorporate passed through the state legislature before being vetoed by the governor.

Much of the town was settled during the last decades of the 1800s. Elm, eucalyptus, walnut and orange trees were planted between 1875 and 1880. Many of the saplings have become towering shade trees today, providing Colusa with an amenity found in few other communities in the region. By the turn of the century, the city had become the trade center for much of the North Sacramento Valley. Construction of the Southern Pacific railroad diminished the reliance on the river for commerce but did not reduce Colusa's importance as a processing and shipping point for grain.

Land Use Analysis

City of Colusa. Although policies in the County General Plan are directed at the unincorporated area, an understanding of the city is essential for these policies to be meaningful. Colusa is the county's most populous city and is its largest urbanized area. The city itself encompasses about 850 acres, but an additional 400 acres outside of town have been developed with scattered residences, retail-service uses and agriculturally-based industry. The economic base of the town is tied to agriculture, particularly rice and prunes. The city also contains a wire cable manufacturer and an orchard equipment manufacturer.

The incorporated area includes about 1,900 dwelling units, most of which are situated on 80 x 120 lots within the original townsite. Another 350 homes are located in the unincorporated area. Most development in Colusa was contained within the original grid of streets until the 1960s when the townsite was built out and peripheral land was developed with housing.

Development that has occurred since 1960 has followed more conventional suburban street patterns. Most of the residential growth has been to the south along Wescott Road and Bridge Street, primarily in subdivisions of 7,000 to 12,000 square-foot lots. The City has two principal commercial districts; a central business district centered around 5th and Market Streets, and a much smaller retail district along Fremont Street near 5th Street. Most agriculturally-related industrial uses in the city are located along Main Street near the river. Several large-parcel land uses are located in the southeast part of the city, including the County Fair Grounds, the High School, and Pirelli Cable Manufacturing. These three uses make up about one-sixth of the city's total land area.

Colusa contains a wealth of historic buildings, including the County Courthouse at 6th and Market. Built in 1861, the building is the second oldest courthouse still in active use in California. It's Greek-revival architecture reflects the heritage of some of the county's first settlers who came to Colusa from the Deep South prior to the Civil War. Other buildings of historical importance include the old Colusa Grammar School (now City Hall) and the old Colusa High School (now the Community Theater). Both are on the National Register of Historic Places.

Unincorporated 14th Street Area. This 55-acre area lies east of the city limits and west of the Southern Pacific railroad bed between Lurline and Wilson Roads. As of 1985, the area contained 58 legal, non-conforming residences (residences that were built before they were expressly prohibited by zoning), a spool manufacturing plant, a concrete batch plant, a PG&E yard, rice dryers, plum packing sheds, and open lots containing heavy equipment. There are also a large number of deteriorating shacks and structures within the area. Because of the mixture of incompatible land uses and its generally run-down appearance, 14th Street was the subject of a special land use study in 1985.

The problem that has been cited in this area concerns a strip of land one-half block wide running the length of 14th Street's west side. The area is zoned industrial but contains two dozen homes, many in poor condition. This strip acts as a transitional area between the heavy industrial uses east of 14th Street and the residential neighborhood along 13th Street and beyond. Current zoning for the area, which permits two-family residential and heavy manufacturing uses on adjoining parcels, was found to be unacceptable because it does not address the need for a buffer between these two uses.

The 1985 study recommended that General Plan and zoning designations for the area be modified so that industrial uses on the east side of 14th Street were gradually phased out. The transitional area would have its land use designation changed to medium-density residential and its zoning changed to R-4. The R-4 designation would permit both apartments and professional offices. Meanwhile, land west of 14th Street would be rezoned from heavy industrial to light industrial, promoting less obtrusive uses close to the nearby residential neighborhood. The study also recommended improvements to City water and sewer lines, which serve some of the properties in the area.

Recommendations of the 14th Street Study have been expressed as new General Plan policies and are presented below.

Unincorporated Lurline/Wilson Road Area. The Lurline Area includes the lands lying west and northwest of Colusa. The area is undergoing a slow transition from orchard and field crop uses to rural residential uses. There are a number of older residential subdivisions close to the city with 1/4-acre lots. There is also a 40-space mobile home park adjoining the city limits. The more recent development is occurring through the splitting of small farms or orchards into several parcels larger than one-half acre in size. The area still contains a viable agricultural base, but the acreage in agricultural production has declined steadily with the influx of "ranchettes".

After a flurry of lot splitting activity, development standards for the Lurline Area were proposed in 1986. The lot splits had resulted in the creation of several inaccessible parcels that could only be served by long driveways or substandard private streets. The resulting ownership pattern may eventually create street and urban service problems if the city of Colusa develops to the west. Some of the more significant Lurline Area proposals are:

- o that parcels cannot be divided into lots smaller than one acre until full public improvements are provided;
- o that permits for homes on existing public streets cannot be issued until public improvements and utilities are provided; and
- o that a community water system should be constructed after 50 percent of the parcels are developed.

The plan for the Lurline area designates those parcels closest to the city for Urban Residential uses. Eventual annexation and extension of city sewer and water to these areas is anticipated. Further to the west and north, areas for Rural Residential use have been identified. Additional parcels smaller than one acre should be prohibited in these areas. This will permit the area to retain its rural character and will avoid the necessity of extending city utilities.

Colusa's unincorporated west side also includes a series of commercial and residential uses located along Highway 20 at the junction of Wilson Road. This area contains a church, a seed processing plant, a commercial fish farm, an electronics store, and two large agricultural equipment sales outlets. The area also includes several houses and mobile homes, all served by private wells and septic systems. Some development is permitted along the western city limits and along Highway 20, but most of this area has been designated as "Agriculture-Transition" in the land use plan.

Unincorporated South Area. This area contains a mixture of residential, agricultural, and agriculturally-related industrial uses. Adjoining the city limits along Ware Avenue between Third and Eighth Streets, there are about 30 homes on 1/4-acre lots. This area is similar in character to the adjoining neighborhood within the city limits. To the south, Fifth Street extends beyond the city limits for about one-half mile. Fifth Street faces conditions and issues similar to the Lurline area. It contains about a dozen large-lot residences intermixed with orchards and is bounded by urban uses on three sides. Residents of the area favor retaining its wooded, low-density character.

Further south, the smaller orchard parcels open up to more expansive fields of grain crops. However, the 74-lot Walnut Ranch subdivision has been developed on a former walnut orchard about 1/3 mile south of the city limits along Wescott Road. Walnut Ranch has left a 50-acre undeveloped gap between the edge of Colusa and the subdivision. Recent lot splitting to the west of Walnut Ranch has created several residential estate parcels. Just south of Walnut Ranch, the abandoned Southern Pacific railroad bed defines the edge of the Colusa area. Beyond the railroad bed, field crops--most notably rice--extend for many miles toward the horizon.

Land on both sides of Wescott Road between Walnut Ranch and the city limits is ideally situated for future residential development. About 150 acres of vacant land in this area have been designated for urban residential uses. Further west, the rural residential area along 5th Street is to extend to the developing area west of Walnut Ranch.

Unincorporated East-Southeast Area. The unincorporated area east of Bridge Street was originally laid out as an extension of the 1850 Colusa townsite. On paper at least, seven of the east-west streets in the city were extended three blocks to the east. Only a few of these streets were constructed and many of the lots were consolidated. About 60 homes exist in this area, mostly in the Goad's Addition along Clay and Parkhill Streets. The homes are served by city water, but have private septic systems. Many of the water lines are substandard and in need of replacement.

Although Bridge Street is the city limit line, there are few perceivable differences in the character of the "city" and "county" sides of the street. Unincorporated uses along Bridge Street include the Veteran's Hall, two convenience stores, an auto showroom, sales, and repair establishment, and two bulk oil plants. Several vacant parcels have recently been annexed or will be annexed soon, including the recently opened Town and Country Shopping Center and Assembly of God Church.

From the Goad's Addition, Crommer Avenue extends 3/4 miles east to the river, providing access to several residences, prune and walnut orchards, a harvester manufacturer, and two bulk oil plants. There is also an old rice storage building along the river at the end of Main Street and a prune drying and packing plant at Moon Bend Road and Highway 20. Some of these parcels are likely to be annexed by the city in the near future.

Most of the East Side is well-suited for residential development, provided that street access is improved as development occurs. Although the East Side has historically developed more slowly than the south and west sides, there are currently proposals to build apartments and senior housing in this area. The Goads Addition and land south of the County Hospital have been identified for future urban residential development in the land use plan. To the east of these areas, additional lands have been set aside for rural residential development.

Unincorporated Airport Area. The land use pattern in the unincorporated area southeast of the city reflects the area's proximity to the Colusa Airport. The airport is a general aviation facility and is adjoined by support uses such as hangars, as well as light industrial uses. Aircraft noise and safety hazards have precluded residential uses near the runway. Most of the land between the city and the airport is contained within the 253-acre Colusa Industrial Park. Developed uses include a bean processing plant, rice dryer, mini-warehouse complex, seed plant, two crop duster companies, two agricultural chemical suppliers, and a water pump and well drilling company.

Two professional buildings housing agricultural-service offices also have been built within the project. There are a sufficient number of large vacant parcels within the Colusa Industrial Park to accommodate the city's projected industrial growth.

Another large acreage land use in this area is the 9-hole Colusa Golf and Country Club. Views of the golf course have been used as a selling point for adjacent new residential areas within the city. To the east of the golf course and airport, pasture land and field crops extend from Highway 20 to the river. This area is somewhat remote from the city and should remain in agricultural uses during the time frame of the General Plan.

North of the River. The Sacramento River clearly defines the northern edge of Colusa. Land on the north bank is used for orchards and field crops with virtually no residences. The entire area lies within the 100-year flood plain and is not likely to receive public improvements or utilities during the next 25 years. The only developed uses are a commercial boat landing and recreational mobile home park, both located south of the Colusa Weir. The severe constraints to development in this area make it poorly suited for urban uses during the next 25 years.

Proposed Land Use Plan

Colusa will remain the largest community in the county over the next two decades. Most of the residential growth will take place south of town along Wescott Road and Fifth Street, east of town in the vicinity of the hospital, and west of town between Lurline and Wilson Roads. In general, these areas would be annexed to the city before any major development was approved. Rural residential areas shown on the plan map would remain unincorporated and without sewer and water services.

Main and Market Streets would remain the focus of commercial activities, with retail, office and service uses encouraged on vacant lots and in vacant buildings in the downtown area. Commercial uses are also shown at the new Town and Country Shopping Center, around Fremont and Fifth Streets, and along on the north side of Highway 20 between Wilson Road and Pirelli Cable.

Industrial areas are shown along 14th Street, south of Highway 20 in the vicinity of Pirelli Cable, on the Colusa Industrial Properties site, and along the north side of Moon Bend Road. New industrial uses would generally be in planned industrial parks which would be designed with buffers to protect nearby residential areas.

The plan also shows several "agricultural transition" areas. These areas presently form a buffer between the built-up area and the large farms surrounding the city. Some of the transition areas may remain in farming over the next 20 years; other areas may be redesignated for urban use during subsequent general plan updates. On the East Side, the area south of Moon Bend Road has been designated a transition area. On the West Side, transition areas are located along Grover Avenue, and in the area south of Wilson Road and west of the abandoned railroad bed. Another transition area has been designated west of Walnut Ranch and south of Colusa High School.

It should be emphasized that before any major development can occur, Colusa needs to solve a number of urban service problems. The city's water pumps are near capacity, drainage and runoff problems need to be addressed, and the schools are crowded with new arrivals. By the year 2000, the need for a Highway 20 bypass around Colusa

will become more critical as traffic through the county and within the city becomes heavier. Within the areas designated for Urban Residential development, additional school and park sites should be provided. Since these areas are to be annexed by the City of Colusa prior to their development, the city should determine appropriate locations for public facilities. Guidelines are provided in the Community Services and Recreation and Open Space Elements of this plan.

The Colusa Community Plan is shown in Figure CP-3. The acreage in each land use category is contained at the end of this chapter in Table CP-3.

Colusa Sphere of Influence Development Policies

- COL-1 The primary sphere of influence for the city of Colusa should be redefined to include all lands shown as "Urban Residential" in the Community Plan. Once redefined, development in the Colusa area should be encouraged to occur within the sphere.
- COL-2 Additional park sites should be acquired by the City of Colusa as development occurs within designated Urban Residential areas.
- COL-3 The abandoned railroad right of way should be maintained where necessary as a precaution against flooding in the city of Colusa.
- COL-4 The rural residential character of the Lurline Area should be preserved. The area should be rezoned for consistency with the Community Plan land use map.
- COL-5 Within the Colusa sphere of influence, private road standards (as set by the County Public Works Department) should only be permitted to provide access to parcels with no potential for further subdivision.
- COL-6 New heavy industrial uses along 14th Street should be prohibited. Land between 14th Street and the abandoned railroad ROW should be gradually redeveloped with light industrial uses.
- COL-7 Land along the east side of 14th Street should be redeveloped with a mixture of multi-family housing and professional offices, with commercial uses at the corner of Market Street and Lurline Road. Existing industries in this area should be designated legal, non-conforming uses, subject to landscaping, noise, and roadway standards. Traffic improvements which divert industrial traffic from residential streets in this area should be encouraged.
- COL-8 Services should not be extended into unincorporated areas until those areas are annexed. When unincorporated areas planned for future urban uses are developed, services should be provided by the city of Colusa.
- COL-9 Zoning within those areas designated "Urban Residential" should establish a sufficient number of sites for new apartments and other higher density housing types.

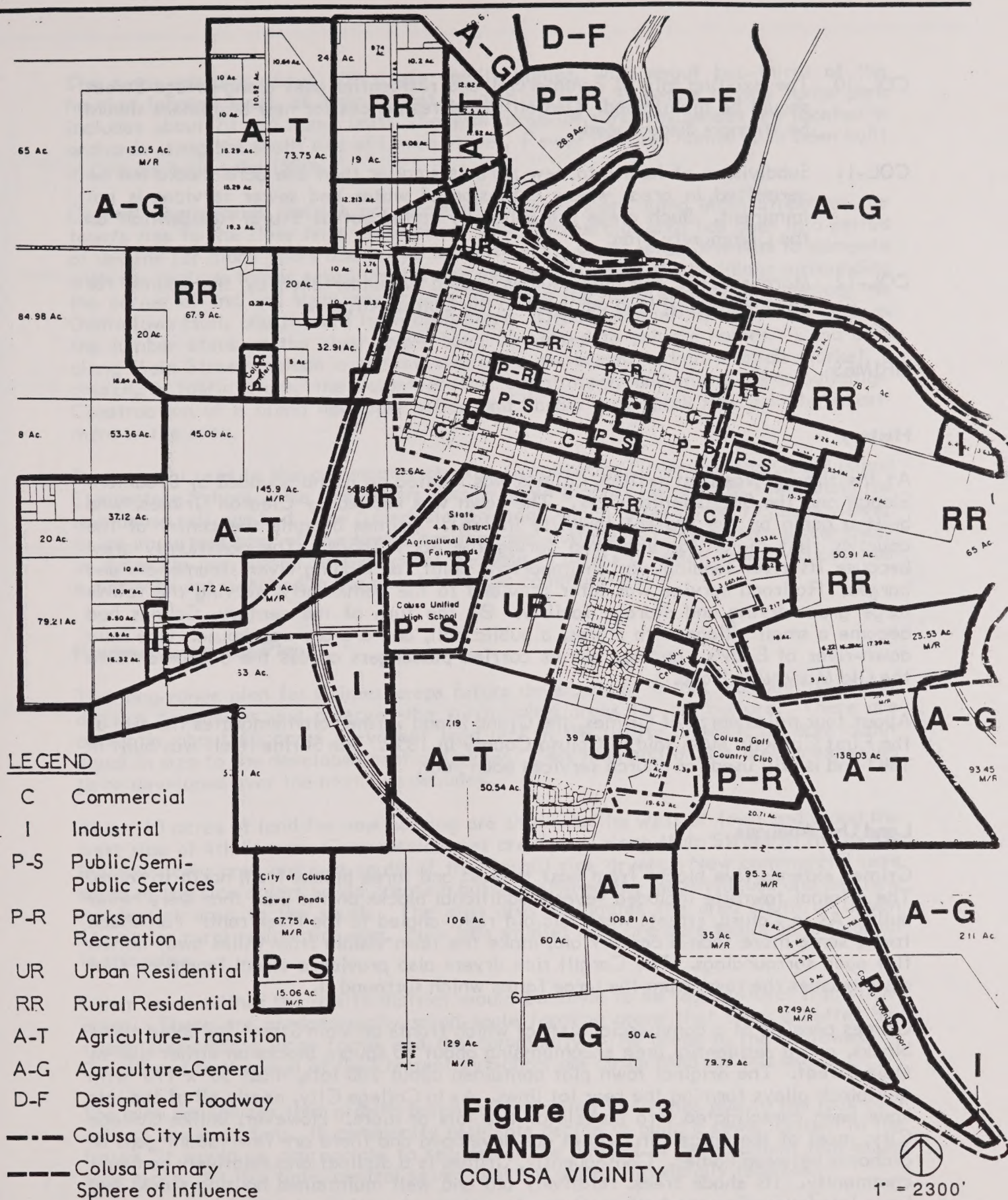


Figure CP-3
LAND USE PLAN
 COLUSA VICINITY

COLUSA COUNTY GENERAL PLAN
 Sedway Cooke Associates

- COL-10 The existing mix of commercial and residential uses along Bridge Street should be maintained. Demolition of residences for new businesses should be strongly discouraged.
- COL-11 Subdivision of land into new parcels smaller than one acre should not be permitted in areas where extension of water and sewer services is not imminent. Such areas are generally called out as "Rural Residential" on the Community Plan.
- COL-12 More specific planning studies should be undertaken by the county for development of land adjacent to the Colusa Airport.

GRIMES

History

At the time it was first settled, Grimes was located on island bounded by Sycamore Slough and the Sacramento River. The town was settled by Cleaton Grimes, who built a cabin on the present townsite in 1851. Grimes became the center of the county's first major farming area during the early 1850s. The community grew because its river landing was an important point for loading river steamboats and barges. Railroad service was later provided to the community, serving the town's large grain drying and storage facility. By the turn of the century, Grimes had become a small village with stores, a public hall, and a grain warehouse. One mile down-river at Eddy's Landing, ferries carried passengers across the Sacramento to the Old Marysville Road.

About four miles north of Grimes, the Grand Island Shrine commemorates the site of the First Catholic Mass said in Colusa County in 1856. The Shrine itself was built in 1883 and is still used for church services each year.

Land Use Analysis

Grimes extends five blocks from east to west and three blocks from north to south. The original townsite included several additional blocks on the east that were never built. As in Colusa, streets were laid out right-angled to the riverfront. Tall shade trees, some more than a century old, make the town visible from miles away across flat open surroundings. The Cargill rice dryers also provide a visual landmark that distinguishes the town from the large farms which surround it.

Grimes consists of a commercial district which fronts on Main Street for about three blocks, and a residential area encompassing about 10 square blocks on either side of Main Street. The original town plat contained about 200 lots, most 50' x 170' with mid-block alleys forming the rear lot lines. As in College City, nearly all of the lots have been consolidated into parcels of two lots or more. However, unlike College City, most of the parcels in Grimes are developed and there are few vacant gaps or orchards between homes. Consequently, Grimes is a distinct and relatively compact community. Its shade trees, relatively old and well maintained housing stock, and large lots (averaging one-half acre) create a pleasant semi-rural atmosphere.

The town contains about 100 single family homes, with about two-thirds of the housing located south of Main Street. North of Main Street, a mobile home park includes about 20 additional units. Several large-lot rural residences are located in orchards along the south side of Leven Street. Fewer than ten homes have been built in Grimes during the 1980s.

Grimes' commercial district has gradually shifted west along Main Street as the town's ties to the river have diminished. The commercial area has been in a period of decline for many years due to the inability of its small establishments to compete with the region's larger retail and service centers. Many of the buildings surrounding the corner of 2nd and Main are vacant, including the historic Bank of America, the Oddfellows Hall, and the old town drug store. Other commercial buildings, such as the lumber store at the river, have been converted to private homes. Land uses along Main Street include a service station, a restaurant, a bar, a small market, a church, a fabric store, the volunteer fire department, and metal farm buildings. Construction of a brand new post office and library may spark new private investment in the area.

Two special uses in the community are the Cargill Rice Dryer and the Grand Island Elementary School. The rice dryers occupy about 8 acres just east of town along the abandoned railroad bed. The Grand Island School, which dates to the 1930s, is viewed as an important part of the town's heritage and culture. Children from as far away as Arbuckle are bussed to the school because it offers a "small-town" educational experience not matched in the county's larger communities.

Proposed Land Use Plan

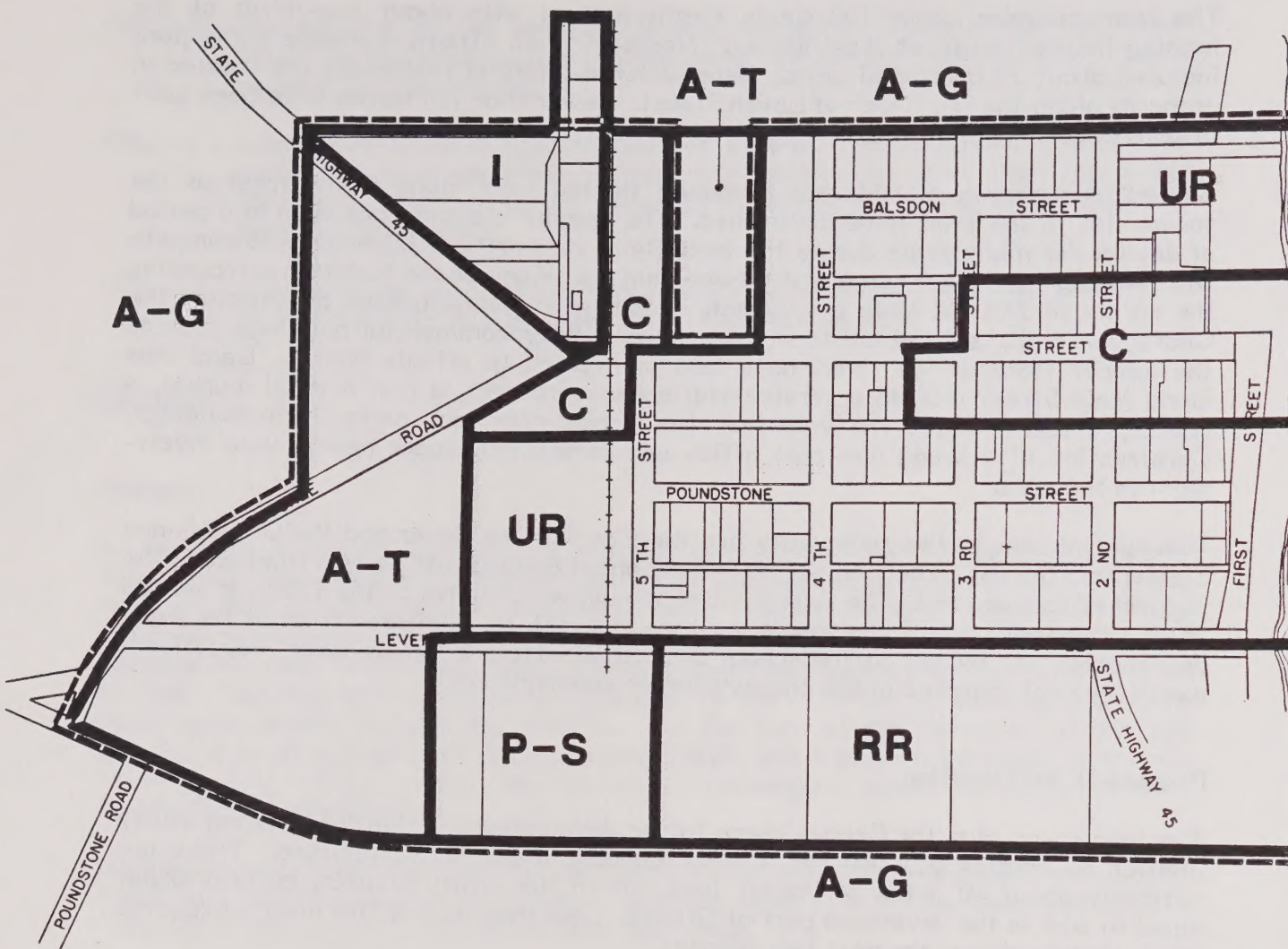
The long-range plan for Grimes keeps future development within the existing utility district boundaries and reserves the surrounding areas for agriculture. There are currently about 60 acres of vacant land left in the utility district, an area about equal in size to the developed part of Grimes. Less than half of this area is expected to be developed over the next two decades.

About 10 acres of land for new housing are shown to the west of town and along the west side of 4th Street. Commercial uses are shown along Main Street in the existing downtown area and just south of the Cargill rice dryers. New commercial uses south of the rice dryers would create a buffer between the industrial use and any new residential area to the south. The plan also designates the area south of Leven Street for rural residential uses. New lots smaller than one acre would be prohibited in this area.

Other areas within the utility district would continue to be "agricultural transition" areas. These are predominantly small-scale farming areas that form a buffer between surrounding large farms and the community. The areas to the southwest of Cargill and to the west of the Elementary School are designated for this use.

The plan recognizes that growth potential is limited in Grimes due to the lack of a central sewer system. If community residents decide to build a sewer system in the future, it would be appropriate to reconsider the amount of development that could take place. At this time, central sewer does not appear financially feasible.

The Community Plan for Grimes is shown in Figure CP-4. Developed and undeveloped acreage in each land use category is shown at the end of this chapter.



LEGEND

- C Commercial
- I Industrial
- P-S Public/Semi-Public Services
- P-R Parks and Recreation
- UR Urban Residential
- RR Rural Residential
- A-T Agriculture-Transition
- A-G Agriculture-General
- Grimes Utility District

Figure CP-4
LAND USE PLAN
GRIMES



1" = 480'

COLUSA COUNTY GENERAL PLAN
 Sedway Cooke Associates

Grimes Development Policies

- GR-1 Future development within Grimes shall be limited to the area within the utility district sphere of influence.
- GR-2 A buffer area of non-residential uses shall be maintained around the Cargill Rice Dryers. This buffer may consist of commercial uses to the south of the dryers along Main Street.
- GR-3 Additional rural residential development should be permitted within the utility district sphere south of Leven Street.
- GR-4 The possibility of constructing a community sewer system in Grimes should be explored. If such a system is determined to be economically feasible, some parcels designated "Agriculture-Transition" may be reclassified as "Urban Residential".
- GR-5 Because Grimes lacks a central sewer system, the use of "group" septic systems should be encouraged in new development projects. The use of septic systems on each lot in new developments should be discouraged.
- GR-6 Restoration of vacant, historic buildings in the Grimes commercial district is strongly encouraged.

MAXWELL

History

Maxwell was the last of the Central Pacific-Southern Pacific Railway towns to be settled in Colusa County. W. S. McCoy, landowner and constable of the area, decided to emulate Tacitus Arbuckle by developing a townsite adjacent to the route of the proposed Northern Railway. The town plat, which was drawn freehand, was recorded at the courthouse in Colusa in 1877. During the same year, a general store, hotel, post office, saloon, blacksmith and wagon shop, and several residences were built. The town was originally called Occident, but was renamed in honor of George Maxwell (the town's postmaster) after he donated his land to the railroad for construction of its depot.

As the tracks were laid in 1878 a construction boom ensued in the new town. Most of the townsite was sold to the railroad's development subsidiary, the Western Development Company, for one dollar a lot. Grain warehouses and livery stables were built as new settlers arrived and stage coach connections were established between Maxwell and Colusa. By 1891, the community had grown to about 400 people. Dry land barley and wheat were grown on the surrounding farms while cattle and sheep grazed the foothills to the west. Businesses in the community were entirely dependent on the farmers, and the farmers depended on the businesses for all goods and services.

Some of the historic buildings in Maxwell's commercial district still remain today, including the Masonic Temple (1885), the Opera House (1912), Brown's Garage (1910), and the Odd Fellows Hall (1914). Many of these buildings were popular social gathering or entertainment places during the town's early years but are mostly

vacant or underutilized today. Other historic buildings have been demolished. The 1922 High School and 1914 Grammar School were both demolished in the mid-1970s because they did not meet the earthquake safety hazards of the Field Act.

Land Use Analysis

Maxwell's development has historically been oriented around a north-south axis along the railroad and an east-west axis perpendicular to the railroad along Oak Street. The original townsite was supplemented during the town's early years by a series of subdivisions or "additions" named after the landowners, including McCoy, Felt, Danley, Harden, and Mathieson. The additions generally extended the town's grid of streets to the configuration it bears today, roughly 8 blocks by 8 blocks. Land surrounding the town is used for field crops, especially rice.

Business District. The town's business district extends along both sides of Oak Street for about three blocks. Commercial uses are centered along the blocks just west of the old rail depot, but the opening of a modern supermarket east of the railroad may change this pattern. As in other small towns in Colusa County, downtown has been hit hard by the advent of convenience stores, supermarkets, and shopping centers in distant communities. In response, many of the newer shops in downtown Maxwell focus on the sale of specialty items such as flowers, antiques and gifts. Oak Street also includes a restaurant, market, auto parts shop, beauty salon, barber shop, laundromat, and the town library. Several of the storefronts are vacant. Just west of the retail district, Oak Street includes the post office, fire department, and American Legion Hall.

Railroad/Old 99 Area. Agriculturally-related industrial uses extend along both sides of the railroad, as they have for over a century. Most of the wooden sheds and buildings which once lined the tracks have been demolished or lost to fire. A very large grain warehouse, surrounded by rice harvesters, occupies the northeast corner of Oak and the railroad. Other metal or masonry warehouses are located south of Oak Street along the west side of the tracks and Old Highway 99. There are a number of large vacant lots along the railroad and Old 99 which are used for truck and harvester parking. These lots are intermixed with scattered commercial uses, including two service stations, two restaurant/bars, a metal building manufacturer, a bank, and a convenience store. Residents of Maxwell have expressed a desire to beautify the Old Highway 99 strip and to encourage tree-planting and commercial redevelopment in this area.

Residential Areas. Maxwell contains about 310 single family homes, 20 multi-family units, and a 26-space mobile home park. One-half of the town's housing lies in the northwest quadrant (north of Oak Street and west of the railroad). In total, about 120 acres in the town are used for housing and adjoining streets. Most residential lots in the original townsite were 25' x 116', while the "additions" featured slightly larger lots. Virtually all of the housing in the Maxwell townsite was built on parcels consisting of two or more of the original lots. Residential parcels as large as 1/2 acre are not uncommon within the town, although most homes are on lots of 6,000 to 15,000 square feet.

The residential areas are fairly compact. Although most blocks contain one or two vacant lots, the lots are often used for backyard gardening and in some cases for raising livestock. Some of the residential blocks include non-residential uses, especially barns, large metal sheds, and small home businesses. The residential area

also includes the elementary school on the north edge of town, the high school on the west edge of town, and three churches.

Nearly all recent residential growth in Maxwell has been on the northwest and southeast edges of town. This is likely to be the case in the near future as well, since these areas contain most of the vacant left in the public utility district. Development on the north has been on 1/2 and 1/3 acre lots and has consisted of higher-priced housing. Development in the southeast has been concentrated in a 28-lot subdivision along Cedar Street and Central Avenue and in a series of lots along Cosner Avenue.

Proposed Land Use Plan

The land use plan for Maxwell recognizes the town's excellent transportation access, available utilities, and high potential for economic growth. Several years ago, the county's Interstate 5 Corridor Study targeted Maxwell as an area well-suited for industrial park development. The I-5 Study recommended that nearly 800 acres between I-5 and Highway 99 be considered for long-term industrial uses. That recommendation has been carried through in the General Plan. Future industrial uses are shown between Highway 99 and Interstate 5, extending from Wadleigh Road south to Fairview Road.

In addition to the new industrial areas, the land use plan shows new commercial uses around the freeway interchange. The types of uses envisioned are similar to those around the Williams freeway interchange, namely restaurants, service stations, motels, and retail uses. New commercial uses would also be encouraged on vacant parcels and in vacant buildings along Highway 99 and Oak Street.

As new jobs are created in Maxwell, demand for new homes will increase as well. Over 100 acres for new housing are planned west of town in the vicinity of the high school, and southeast of town near Central Street. Future housing areas have been sited above the flood plain of Stone Corral Creek, and away from noise sources such as Interstate 5. The land use plan encourages residential development that will blend with the existing residential neighborhoods west of the railroad. Within the industrial areas, design standards will ensure that buffer areas are maintained between industrial uses and nearby residential areas.

Further west, an agricultural transition area has been designated between the town of Maxwell and Cemetery Road. This area would form a buffer between the developed area and the large acreage farms beyond. Some of the transition area might be reconsidered for development when closer-in areas become built up. A substantial amount of land south of Maxwell and west of the proposed industrial area has been designated for future rural residential development. This area is intended to form a transitional zone between industrial uses east of Route 99 and the large farms south and west of Maxwell.

The Community Plan for Maxwell is shown in Figure CP-5. The acreage in each plan category is summarized in Table CP-3.

Maxwell Development Policies

- MAX-1 The utility district sphere should be immediately expanded to include all lands between Highway 99 and Interstate 5, south of Wadleigh Road and north of Fairview Road.
- MAX-2 The planned industrial areas within the expanded utility district sphere of influence should be rezoned for commercial and industrial uses. Commercial and industrial development should be strongly encouraged within the areas described in Policy MAX-1 and in the parcels adjoining the east side of the Maxwell interchange.
- MAX-3 New industries should be encouraged to connect to the existing sewer and water systems in Maxwell. Where this is not possible, independent sewer and water systems may be used as an interim measure until the extension of public utilities is feasible.
- MAX-4 A specific plan or special study should be undertaken for the planned industrial area in Maxwell. The study should establish architectural design guidelines, landscape standards, and road standards and should prescribe permitted and prohibited uses within the area.
- MAX-5 A buffer area of open space, office, warehouse, or light industrial uses should be maintained between the planned industrial area and adjacent residential neighborhoods.
- MAX-6 The feasibility of establishing a service district for the landscaping or beautification of Maxwell should be explored. Volunteer or community fund-raising efforts to beautify the community should be supported. The county should also assist residents of Maxwell in efforts to secure state or federal funds for improving the buildings and streetscapes within the community.
- MAX-7 The town park in Maxwell should be the subject of a follow-up study. The park and any other recreational facilities should be paid for through the Maxwell Parks and Recreation District and the collection of development impact fees as established by that district.
- MAX-8 Any development in the flood plain of Stone Corral Creek should comply with building standards prescribed by the Federal Emergency Management Agency. Habitable structures below the creek's 100-year flood elevation shall be prohibited.
- MAX-9 Tourism and specialty retailing in the Maxwell Central Business District should be strongly promoted. Efforts to refurbish historic buildings and to redevelop vacant lots in the downtown area should be encouraged.
- MAX-10 The Maxwell freeway interchange should be developed with highway-oriented commercial uses, primarily serving interstate travelers.
- MAX-11 Traffic within new industrial areas should be directed in a manner which minimizes the impact on local streets within the town of Maxwell.

PRINCETON

History

Princeton was founded by Dr. A. Lull in 1850. The town was laid out in the early 1850s on the site of the Sixteen Mile House, a roadside inn which served wagon traffic on the road to the Northern Mines. Princeton became a major steamboat landing on the Sacramento River during the late 1850s and 1860s and was later served by the Southern Pacific Railroad. The community was also the site of a ferry crossing to the Marysville Road. The ferry became California's first electrically powered river ferry in 1932. Although temporarily inoperable, the Princeton Ferry is one of the last still functioning on the river.

Land Use Analysis

Princeton's development pattern reflects the man-made features which form its eastern and western boundaries. Levees--containing the Sacramento River on the east and the River Branch Canal on the west--have defined the edges of town for many years. Because these two levees are parallel to each other and are less than one-quarter mile apart, Princeton's growth has been pushed to the north and south. The town is oriented along Highway 45, the principal route between Colusa and Chico. The railroad passed about one-half mile west of town so it has not really influenced the way Princeton appears today.

The town extends four blocks from north to south and three blocks from east to west. Most of the blocks are bisected by a 30' north-south alley. Lots in the original townsite were somewhat larger than in other Colusa County towns, averaging 80'x 160'. Most of the town's 100 homes are on parcels of 1/4 to 1/2 acre. Princeton also includes a 4-unit apartment building, and a small mobile home park. Most of the housing is contained within the original townsite, although a strip of lots along Highway 45 extends north of town to the ferry landing. The town's rice dryer lies just beyond the landing.

Princeton has a well-defined "downtown" occupying a single block along Highway 45 between Prince Street and Center Street. Uses include a hardware store, two bars, a market, and an auto parts store. The library, irrigation district, and post office are located in this area as well. There are also several grain storage buildings. The composition of uses is very similar to that found in downtown Grimes. However, Highway 45 has relatively high traffic volumes, creating a less intimate atmosphere in the central area than in Grimes. North and south of downtown, homes extend along the highway to the edges of town.

The Princeton High School and Elementary School occupy about one-quarter of the town's developed acreage. Both buildings are focal points of the community and help establish Princeton as the service center for the surrounding farm areas in Colusa and Glenn Counties. The town also contains two churches, a fire station, and a lodge building. A few of the residential area lots are developed with metal sheds and warehouses, but these uses generally have not created conflicts with surrounding uses.

Bridges at Norman Road, Center Street, and Spencer Road cross the River Branch Canal and join Princeton with the farmland to the west. Most land west of the canal is used for rice farming, although about 12 acres by the high school are used for

playing fields. There are also clusters of homes along Center Street and along Norman Road, and there are sewage treatment ponds just north of Spencer Road. East of the Sacramento River levee, the land is highly flood prone and is generally used for orchards. Private dirt roads provide access to properties on the river side of the levee.

Proposed Land Use Plan

The land use plan for Princeton focuses future development close to the existing community, particularly between the River Branch Canal and the Sacramento River levee. The areas with the greatest potential for new residential development are north of Norman Road between Highway 45 and the Canal, and along Argo Street between Center Street and Norman Road. Over 30 acres in these two areas are designated for future residential development, enough land to potentially double the town's population. New commercial development is to be encouraged on vacant parcels and in vacant buildings along Highway 45.

While the plan sets aside more than a 20-year supply of residential land, the amount of development shown is far less than what is currently allowed by the town's zoning. In fact, the present zoning map shows about 250 acres of farmland on which apartments or duplexes are permitted; if this land were actually developed in accordance with the zoning, Princeton's population would be larger than Colusa's. The new land use plan recommends that such drastic changes be avoided, and that this 250-acre area be designated as an "agricultural transition" area. This area would form a buffer between the town of Princeton and the large acreage farms beyond.

Given the level of development planned for Princeton, improvements to the sewer and water systems should not be required during the next 20 years. New development has been planned in areas that can be easily connected to utility systems. A buffer area has been designated around the sewage treatment plant to ensure that use of the plant can be increased without creating hazards or odors in nearby residential areas.

The Community Plan for Princeton is shown in Figure CP-6. Table CP-3 summarizes the acreage in each land use category.

Princeton Development Policies

- PR-1 The Utility District boundaries should be expanded to include all lands shown as "Urban Residential" in the Community Plan.
- PR-2 A buffer area of non-residential uses should be established around the sewage treatment plant.
- PR-3 Development or landscape improvements which could potentially obstruct the River Branch Canal shall be prohibited.
- PR-4 No development shall be permitted in the designated floodway of the Sacramento River.
- PR-5 Opportunities for tourist-serving development, especially associated with the Princeton Ferry, should be supported by the county.

(Abandoned S.P. R.O.W.)

C Commercial

I Industrial

P-S Public/Semi-Public Service

P-R Parks and Recreation

UR Urban Residential

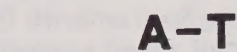
RR Rural Residential

A-T Agriculture-Transition

A-G Agriculture-General

D-F Designated Floodway

— Princeton Utility District



UR

P-S

UR

A-T

P-S

A-T

D-F

A-G

Figure CP-6 LAND USE PLAN PRINCETON

COLUSA COUNTY GENERAL PLAN



1" = 600'

PR-6 Restoration of vacant buildings and redevelopment of vacant lots within Princeton's commercial district is strongly encouraged.

STONYFORD-LODOGA

History

The Indian Valley around Stonyford-Lodoga was initially settled in the 1850s. It was not until 1863 that the valley's first town was developed. John L. Smith founded the community of Smithville at the junction of Little Stony and Stony Creeks. The community featured a 3-story hotel and flour mill powered by water diverted from the creek. In 1890, the Stony Creek Improvement Company bought the landholdings and moved the buildings to a gravelly ridge one-half mile to the southeast. The higher ground was above the flood plain and was better situated for development of a town.

Stonyford's early growth was spurred on by mining in the nearby mountains and by ranching and farming in the surrounding countryside. By the turn of the century, the little town could boast three hotels, two gambling houses, a saloon, seed mill, general stores, a dance hall, and a creamery. The Town Hall, built in 1899, still stands today. The surrounding valley had six school houses, but only the Indian Valley School remains today.

In 1908, Stony Creek was diverted and dammed to create East Park Reservoir, the first federal reclamation project in California. Orland obtained the water rights to Stony Creek, placing a burden on dairy and alfalfa farmers in the Indian Valley and ultimately constraining growth in Stonyford. Farming in the area was further affected by erosion problems that resulted from overgrazing by sheep and cattle. Virtually no population growth occurred in the valley between 1900 and 1980. However, the area did gain importance as a recreational center and gateway to the Mendocino National Forest.

Seven miles southeast of Stonyford, the community of Lodoga developed along Indian Creek, the inlet stream to East Park Reservoir. Lodoga originally developed as a seasonal recreation area with summer cabins along the Creek. Over the years, it has developed into a year-round residential and recreation area. Today, the small remodeled cabin homes are complemented by new larger homes. The town's grammar school was closed in 1967.

Midway between Stonyford and Lodoga, the community of Century Ranch has emerged as a third population center in the Indian Valley. When the land was originally subdivided in 1965, Century Ranch was to be the largest development in the county. About 1,000 lots were sold and a clubhouse was built, but the golf course, airport, school, and lakes shown in the original plan were never constructed.

Land Use Analysis

Stonyford. The town of Stonyford was laid out on a 100-acre site along a grid of streets six blocks wide by three blocks long. Original lots on Market Street, the town's commercial thoroughfare, were 25' x 120', while most of the other lots were 50' x 120' or 120' x 300'. Only a fraction of the 1890 townsite was ever developed. Over the years, entire blocks were consolidated into single homesites as large as 8 acres. The town's very low density, complemented by roadside wildflowers and the

spectacular backdrop of Snow and St. John Mountains, give Stonyford a rustic "old-west" character. This has made the area increasingly popular for retirees, second home owners, and families seeking rural lifestyles.

Today, Stonyford consists of about two square blocks and 30 homes. Market Street contains two general stores, two restaurants, two lodges, a phone company office, a post office, and the town hall. The town also contains two historic churches. The lodges, churches, and town hall have been social gathering places for nearly a century and are still a very important part of community life. The rodeo grounds east of town, site of Stonyford's largest annual event, are also an important part of the town's heritage.

Much of the Stonyford community is located outside of the original townsite, on the farms and rural residences that dot the surrounding countryside. Just north of town, the Indian Valley School serves Stonyford and adjoining areas in Glenn County. Across Lodoga-Stonyford Road, the Mendocino National Forest Ranger Station provides housing for rangers working in the southeastern portion of the forest. The Forest Service offices are located about 1/2 mile south of town. The town library and the Stonyford Landfill are located nearby. There are also a few rural residential subdivisions in the south part of Stonyford, all contained within the town's water district. These subdivisions contain a combined total of about 25 homes, generally on one to five acre lots. Most of the housing units are mobile homes or prefabricated homes.

Lodoga. The town of Lodoga consists of about 20 homes and extends for about 1/2 mile along the banks of Indian Creek. Most of the homes were originally built as vacation cabins. Homes generally occupy the 1/4 to 1/2 acre lots that are wedged in the strip of land between the creek and the Sites-Lodoga/Leesville-Lodoga Road. The community also contains a bar and restaurant, a veterinary clinic, and a TV repair shop. There are several vacant parcels located along the creek, but their development potential is limited by flood hazards. The larger parcels on the edge of Lodoga are generally used for farming but have some potential for rural residential development.

Indian Valley. Stonyford-Lodoga's physical setting makes the area unique among Colusa County communities. Unlike the Sacramento Valley towns which are surrounded by flat open plains and vast farms, the land between Stonyford and Lodoga is rugged and heavily wooded. The terrain has fostered a scattered rural development pattern oriented along the roads connecting the communities at either end of the valley. Flat land is generally used for wheat farming, while the grassy rolling hills are used for cattle and sheep grazing. Interspersed between the farms and ranches are a number of rural subdivisions, including Century Ranch and East Park Lake View Acres. There are also several large acreage homesites, especially along Goat Mountain Road and Stonyford-Lodoga Road.

Stonyford is presently the largest population center in the western foothills of Colusa County. Due to its development potential, however, Century Ranch is likely to become the larger community as time passes. The 1,000-lot subdivision has about 60 homes, just 6 percent of its buildout potential. Between 25 and 30 of these homes are occupied year-round. Lots are generally 1/2 acre and are oriented along winding roads and cul-de-sacs that traverse the hilly site. The homes are scattered throughout the subdivision giving the impression that lot sizes are actually much larger. There is a community water system, administered by a private water company, but no centralized sewer. Because of the difficulty in achieving adequate percolation for

individual septic systems on many lots, and because of the inadequate water supply in dry years, the county and landowners should investigate re-organizing two existing "paper" special districts into a single multi-purpose community service district which could address the specialized needs of landowners and residents. Without central sewer, some of the steeper parts of Century Ranch and many of the level lots are unbuildable since septic systems cannot function on the sloping lots or on soils with inadequate percolation.

Just north of Century Ranch, East Park Lake View Acres extends for about 1 1/2 miles along Lodoga-Stonyford Road. The 150-acre subdivision consists of a continuous string of about 60 lots (averaging about 2.5 acres each) along both sides of the road. About a dozen homes have been built in the development.

Proposed Land Use Plan

The Stonyford-Lodoga area was the subject of a special area plan completed in 1983. The plan established new general plan and zoning designations for the Indian Valley and set performance standards for future subdivisions. Outside of the existing subdivisions, 10-acre minimum lot sizes are permitted along most of the Stonyford-Lodoga Road and on the east side of East Park Reservoir. Elsewhere, minimum allowable lot sizes are 80 acres, encouraging continued agriculture, ranching, and open space uses. In those areas where rural residential development is allowed, proposed parcels must meet certain slope and groundwater standards.

Within the town of Stonyford, the plan shows rural residential development on the remaining vacant parcels in the water district. Because the town lacks a central sewer system, subdivision of vacant parcels into new lots smaller than one acre should be discouraged. However, since the town was laid out many years ago, development on existing lots smaller than one acre will invariably take place. This development should strive to maintain the town's rural character.

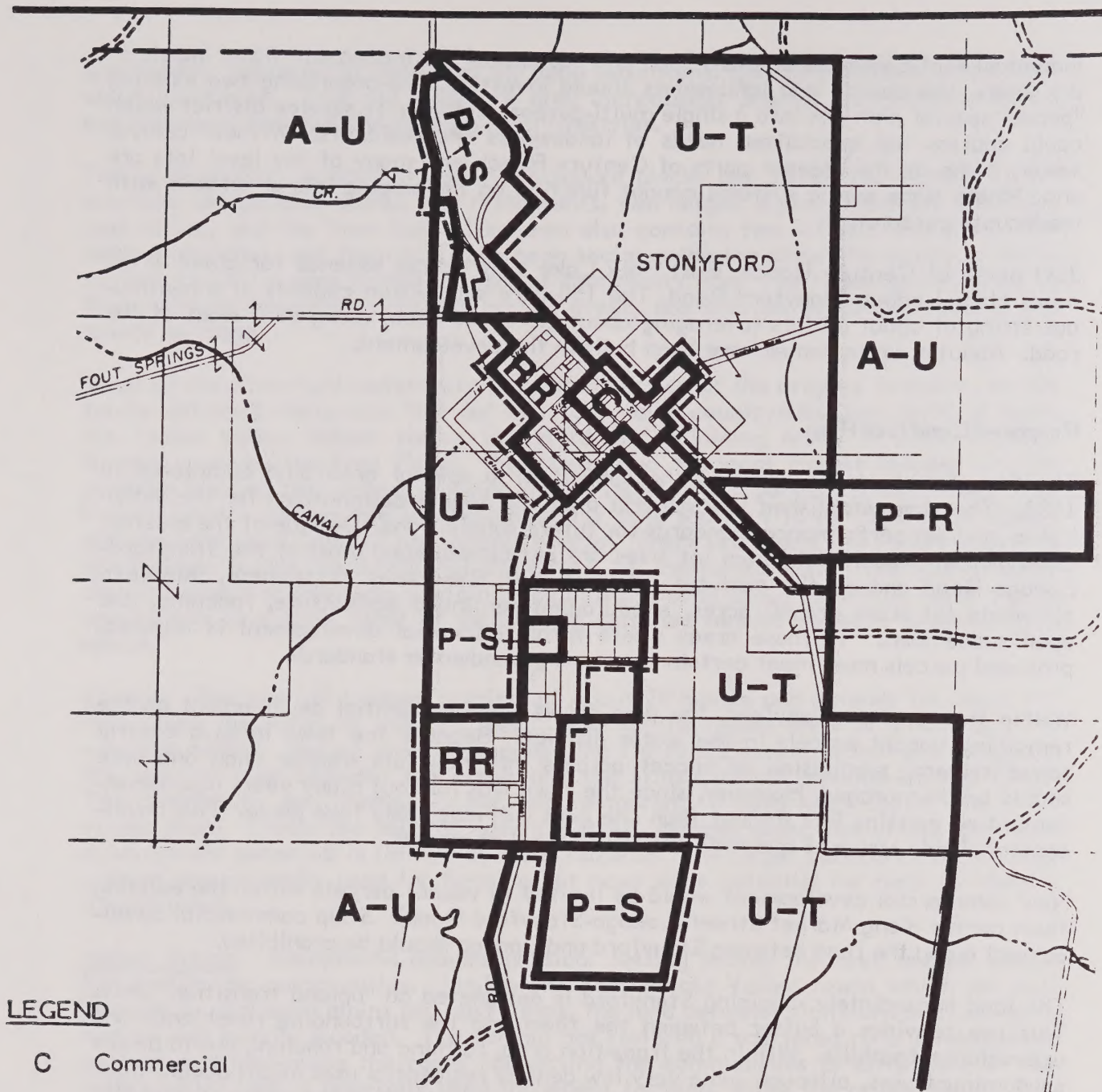
New commercial development would be limited to vacant parcels within the existing town center along Market Street (Lodoga-Stonyford Road). Strip commercial development along the road between Stonyford and Lodoga should be prohibited.

The land immediately adjoining Stonyford is designated an "upland transition" area. This use provides a buffer between the town and the surrounding ranchlands and undeveloped foothills. Within the transition area, farming and ranching are to be the predominant uses, although some very low density residential uses might occur. Such uses could only occur on parcels of at least 10 acres, meeting the water availability and slope density requirements set forth in the 1983 Stonyford-Lodoga Plan.

The plan for Stonyford is shown in Figure CP-7. Acreage in each land use category is presented in Table CP-3. Land use designations for the Indian Valley between Stonyford and Lodoga are contained in the Land Use Element's Figure LU-2.

Stonyford-Lodoga Development Policies

- SL-1 The rural character of the Stonyford-Lodoga area should be preserved. Development should respect the area's visual and environmental qualities.



LEGEND

- C Commercial
- I Industrial
- P-S Public/Semi-Public Services
- P-R Parks and Recreation
- UR Urban Residential
- RR Rural Residential
- U-T Upland-Transition
- A-U Agriculture-Upland

--- Stonyford Water District

Figure CP-7
LAND USE PLAN
 STONYFORD

COLUSA COUNTY GENERAL PLAN
 Sedway Cooke Associates



1" = 1550'

- SL-2 The Community Plan for Stonyford-Lodoga should reflect the findings and policies of the 1983 Stonyford-Lodoga Area Plan.
- SL-3 Future subdivision of land into parcels smaller than one acre should be discouraged in the Stonyford-Lodoga area. Merging of small lots under common ownership within the Stonyford townsite into parcels of at least one acre should be encouraged.
- SL-4 Subdivision of land in the Stonyford-Lodoga area should be conditioned upon proof of adequate water supply for domestic use and fire protection, and sewage disposal meeting county standards. Frontage for each parcel on a road built to County standards shall be ensured.
- SL-5 Because the community lacks a central sewer system, future development within the Stonyford Water District should be encouraged to use "group" septic systems rather than on-site systems serving individual lots.
- SL-6 The Hillside Combining Zone should be used to regulate the density of housing on all developable private land in the area.
- SL-7 Future commercial development should be concentrated in the existing commercial districts of Stonyford, Lodoga, and Century Ranch. Strip commercial development on the road between the communities should be prohibited.
- SL-8 Opportunities for tourist-serving or recreational development in the Stonyford-Lodoga area should be supported by the county.

WILLIAMS

History

Williams was established in 1876, when landowner W. H. Williams drew up plans for a town at the proposed Northern Railway depot some 10 miles north of Arbuckle. By the time the tracks reached Williams in the early summer of 1877, the town was well on its way to becoming a major agricultural processing and distribution center. In his History of Colusa County (1891), Justus Rogers notes that the first buildings in Williams were "rude and hastily constructed". However, Rogers goes on to note that by the 1890s, the town sported handsome dwellings and substantial brick buildings.

The decline of river traffic on the Sacramento and the redrawing of the County's northern boundary made Williams the county's transportation hub and geographic center. The town's early success was built on the railroad and the grain products grown in the surrounding farm areas. Rice and tomatoes became the predominant farm crops during the early 1900s. With the decline of rail traffic, the town has remained a transportation hub by virtue of its location at the crossroads of Interstate 5 and State Highway 20.

Land Use Pattern

City of Williams. Although the county does not regulate land use within the city limits, a discussion of the incorporated area is included to put conditions in the surrounding area in perspective. Incorporated areas are shown in a generalized manner on the Williams Community Plan. More specific designations may be determined by the city when it updates its general plan.

Land use in Williams reflects the town's historic orientation along the railroad and its more recent orientation towards Interstate 5. Williams is laid out much the same as Maxwell; an agricultural-industrial area extends north and south along the railroad, a business district extends perpendicular to the railroad along a major east-west road, and residential neighborhoods lie north and south of the business district. However, the residential areas in Williams are more than twice as large as Maxwell's, and commercial uses in Williams cover an area nearly ten times the size of downtown Maxwell. In fact, Williams has a far greater proportion of its land in commercial uses than any other community in Colusa County. This reflects the large acreage in freeway-dependent uses such as motels, restaurants, and service stations. These establishments take up much greater land areas than the old commercial buildings in the main business district.

Commercial uses are concentrated on the north and south sides of Business Route 20 ("E" Street) on the east side of Interstate 5. Although the establishments at the interchange serve the local population, their primary customers are interstate travelers. Williams is the largest community along the 65-mile stretch of road between Woodland and Willows and is a major stopping point for gas, food, and lodging. To the west of the freeway-commercial area, the older downtown commercial area stretches for several blocks along 7th Street (Old Highway 99). Highway 99 contains six motels, a supermarket, and a number of restaurants, variety stores, gas stations, and offices. Commercial uses are intermixed with public uses to the west on "E" Street. The blocks west of the central district include City Hall, the police and fire station, the library, and a market.

Virtually all of the area's industries are located on parcels fronting the railroad. Many of these parcels are actually unincorporated and are discussed below. Within the city limits, major industrial uses include a feed mill, a grain warehouse, and a pole manufacturer. There is also a machine shop in downtown Williams, and there are a number of truck storage lots and gas wells along Old Highway 99.

The town's housing stock is about evenly distributed between the north and south sides of "E" Street. From downtown Williams, residential areas extend about five blocks to the west, five blocks to the north, and five blocks to the south. All residences within the city limits lie east of the railroad. The city's housing stock includes 500 single family homes, 25 mobile homes, and just over 100 duplexes and apartments. Single family neighborhoods in the city average about 5 dwelling units per acre, with many homes on 50' x 150' lots.

Several large acreage uses stand out in the city of Williams. On the west side, the elementary, middle, and high schools share a common 40-acre campus. Other major land uses in the city include two city parks, the Sacramento Museum, and 7 churches. Most land in the city limits has been built out, although several infill commercial parcels and vacant lots remain. The 1986 Housing Element for Williams estimated that 27 acres of vacant residential land remained in the city. Much of this land is not really vacant, since it contains rural residences on 1- to 8-acre lots.

There is no indication that the large lot homeowners in the city plan to create subdivisions on their properties. Given the projected level of growth in Williams, most of the community's future housing will be constructed on parcels that are presently unincorporated.

Unincorporated I-5 Corridor. The I-5 Corridor area includes land in the Williams sphere of influence east of the city limits. Several of the properties adjoining the city limits already receive city water and sewer and have recently been annexed. Most of the remaining land in this area is used for rice farming, tomatoes, and other row crops, but there are scattered agricultural-industrial and commercial uses east of the freeway. Much of the Williams I-5 area is planned for industrial development during the coming years.

The area between the city limits and the interstate includes a milling company, rice dryers and storage bins, and a county equipment yard. Further south, a migrant farm labor camp occupies about 25 acres along the Interstate.

East of the freeway, there are several rural residences and agricultural storage buildings, a commercial airport used for crop dusting, a petroleum products warehouse, a bus yard, a swimming pool manufacturer, a flea mart, rice and vine seed drying facilities, and a few commercial supply businesses. These uses occupy small parcels and are very widely scattered along Husted Road, Crawford Road, Old Highway 99, and the Husted Lateral. Away from the roadsides, the large tracts behind the commercial buildings are used for agriculture.

The Community Plan for Williams recommends that much of this land be designated for future industrial development. Its visibility from the freeway, proximity to the railroad, and accessibility from I-5 make it ideally situated for industry. Most parcels lying in the triangular area bounded by Highway 20, I-5 and Husted Road have been designated "Industrial"; the area immediately adjacent to the "E" Street and Highway 20 interchanges have been designated "Commercial".

About 930 acres east of Husted Road and the Southern Pacific Railroad, north of the Glenn-Colusa Canal, and south of Abel Road are already contained within a proposed industrial park. The tentative site plan for Williams Industrial Properties would create 36 parcels between 12 and 54 acres in size, served by a loop street off Husted Road. Most of the site will be rezoned for heavy industry, although a light industrial buffer between the project and Husted Road will be maintained to avoid future conflicts as the city of Williams grows to the south.

Unincorporated Southern Rural-Residential Area. To the south and southwest of Williams, fruit and walnut orchards on relatively small farm parcels have proven to be an attractive draw for rural-residential development. This area, which was once almost exclusively used for agriculture, now contains about 80 rural non-farm residences on parcels averaging 1/2 acre to 5 acres. Most of the parcels have been created through lot splits on orchards rather than through major subdivisions. The smallest parcels adjoin the city limits, especially along Theater Drive and Venice Boulevard. Further south, residential uses have been less intrusive and the orchards are more predominant. The area also contains scattered commercial uses, including an irrigation pipeyard, a tow-truck company, a motel, a county corporation yard, and a crop dusting landing strip just west of Husted Road.

As in other rural-residential areas in Colusa County, the practice of housing development without sewer and water services is of some concern south of Williams. As

the area continues to undergo a transition from farm to urban uses, the need for public improvements become greater. At the same time, the more piecemeal and irregular the development pattern gets, the more difficult it becomes to construct these improvements. Furthermore, the "ranchette" development pattern results in many one to five acre lots and limits the availability of sites for larger-scale suburban housing developments. These developments will be needed to sustain future growth in Williams; the lack of suitable large sites may result in leapfrogging and ultimately result in a less efficient land use pattern.

The rural residential area south of Williams has been designated for Urban Residential uses in the Community Plan. It is expected that this area will eventually be annexed to the city and that urban services will be extended south. To ensure that adequate development sites are available, further land subdivision in this area should be discouraged until utility lines are extended.

Unincorporated Northern and Northwestern Areas. There is very little urban development to the north and northwest of Williams. The only non-agricultural land uses are located immediately north of the city limits on Old Highway 99. This area includes gas storage tanks, a small RV park, and auto salvage yards. North of town, the Highway 20 bypass spans Old Highway 99, the railroad, and Interstate 5. The city's sewage treatment plant occupies about 40 acres just north of the bypass. The rest of this area is used for rice and row crop farming.

Salt Creek flows just north of Highway 20. The creek's flood plain encompasses most of the land north of Williams and, in fact, extends well into the city itself. The combination of the flood plain, sewer plant odors, and the auto salvage yards make this a less attractive location for growth than areas to the east and south. However, if flooding problems on Salt Creek can be corrected and if the sewer plant is re-located to the Williams Industrial Properties site, development possibilities in this area would be much more favorable. A 117-lot housing development has already been approved north of the High School and commercial uses may follow along the Highway 20 bypass. As this area develops, it is imperative that a master plan for correcting drainage and flooding is implemented. Correcting drainage problems simply by raising each development site is not recommended, as this may only make the problem worse downstream.

Proposed Land Use Plan

During the next two decades, Williams is projected to grow faster than any other community in Colusa County. Its location at the crossroads of Interstate 5 and Highway 20 provides excellent access and offers excellent prospects for commercial and industrial development. With such development comes increased demand for housing and public facilities. It is expected that the Williams area will grow from its current population of about 2,000 people to about 5,400 people in the year 2010. In other words, in a little more than 20 years, Williams will be about as big as Colusa is now.

The County General Plan incorporates the recommendations of the 1985 I-5 Corridor Plan, and the 1984 Sphere of Influence study for Williams. These plans designated large areas east of Interstate 5 for industrial uses, as well as additional areas for industry along the Southern Pacific Railroad on the west side of the Interstate. The proposed land use plan shows about 2,000 acres of vacant or agricultural land in future industrial use. Almost half of this land lies within the Williams Industrial Properties development.

The new industrial areas should be developed according to design standards or specific plan guidelines. These guidelines should ensure that development does not interfere with nearby residential areas and that adequate provisions are made for sewer, water, drainage, and access. Standards should address landscaping and architectural requirements and should define permitted and prohibited uses within different parts of the industrial area. Heavy industrial uses should be limited to the areas furthest away from residential neighborhoods.

While road and rail access were the primary criteria for locating future commercial and industrial areas, residential areas have been located in those areas that are free of physical constraints such as flooding and noise. Because flooding constrains growth to the north and northwest, and industry will be predominant on the east, the plan directs new housing to the south and southwest. A small area for housing is designated to the northwest of the city, contingent upon Salt Creek drainage improvements.

About 1,000 acres have been designated for "urban residential" use. Some of this area is already partially developed with rural residential uses. The character of this area would change over time as utilities were extended south and higher density development took place. Rural residential development would move further south and west, and an agriculture transition area would extend south to Walnut Drive. Depending on the rate of industrial development in Williams, it may be appropriate to replan some of the transition area for residential development before the general plan horizon year. The ultimate goal for the area south of Williams is the development of high-quality housing.

The Williams Community Plan is shown in Figure CP-8. The acreage in each land use category is presented in Table CP-3.

Williams Sphere of Influence Development Policies

- WIL-1 The primary and ultimate spheres of influence of the city of Williams should be redefined to reflect the ultimate community plan. The primary sphere should be defined so that it includes all areas planned for development during the timeframe of this plan (1987-2010). Urban development outside of the sphere of influence area should not be permitted.
- WIL-2 Additional park sites should be acquired by the City of Williams as development occurs within designated Urban Residential areas.
- WIL-3 Services should not be extended into unincorporated areas until those areas are annexed. When unincorporated areas planned for future urban uses are developed, services should be provided by the city of Williams.
- WIL-4 Zoning within those areas designated "Urban Residential" should establish a sufficient number of sites for new apartments and other higher density housing types.
- WIL-5 The "E" Street freeway interchange should continue to be promoted as a "traveler's oasis"; additional highway commercial uses should be encouraged on the east side of the freeway interchange. When the interchange is substantially built out, highway commercial uses should be encouraged

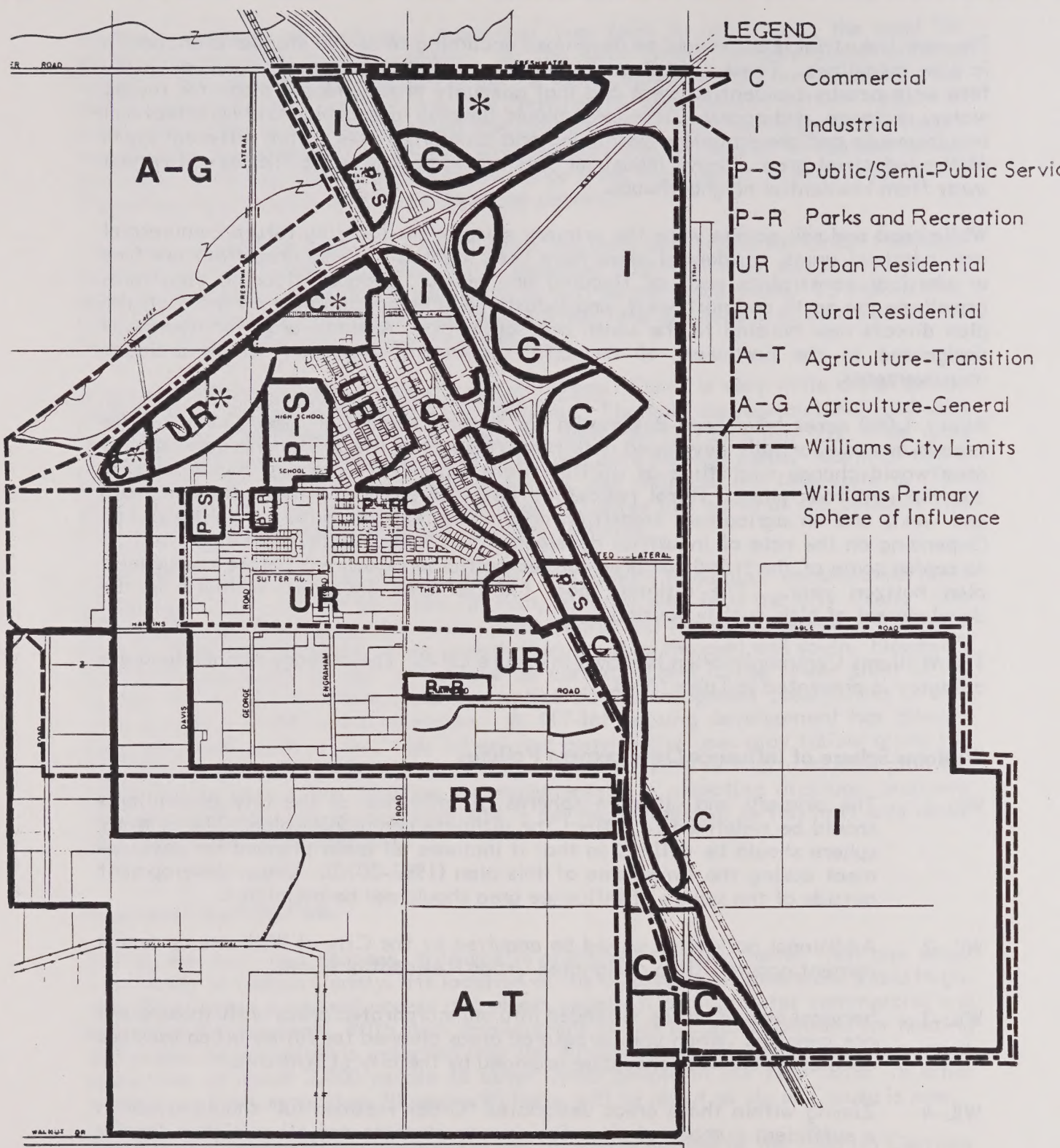


Figure CP-8
LAND USE PLAN
 WILLIAMS VICINITY

COLUSA COUNTY GENERAL PLAN
 Sedway Cooke Associates



1" = 2600'

around the Highway 20/Interstate 5 interchange and the Husted Road/Interstate 5 interchange.

- WIL-6 Confirmation of new Salt Creek flood plain boundaries should be obtained from the Federal Emergency Management Agency to more accurately identify areas unsuitable for development
- WIL-7 Once new flood plain boundaries are known, a comprehensive solution to the flooding problem along Salt Creek and the North Side should be developed. Piecemeal solutions in which individual sites are raised above the 100-year flood elevation as they are developed should be discouraged. Development along the Highway 20 bypass should be discouraged until area drainage problems are corrected.
- WIL-8 Additional land subdivision in the area south and west of the city limits should be discouraged until extension of sewer and water services is imminent. When utilities are extended, infill of vacant or agricultural parcels with urban residential uses should be encouraged.
- WIL-9 The range of housing, retailing, and community services available in Williams should be increased to make the community more attractive to prospective employers.
- WIL-10 Within the planned industrial areas, design guidelines should be used to ensure high development quality and compatibility between these areas and adjacent land uses.
- WIL-11 If Williams Industrial Properties is developed at a more rapid rate than anticipated, some of the land designated "Agriculture-Transition" or "Rural Residential" may be reclassified for urban uses. In this event, a buffer area should be maintained between residential and industrial uses.
- WIL-12 Lands lying in the approach zones of the landing strips to the east and west of Williams should remain agricultural as long as the landing strips remain operational.

Table CP-3: Land Use Plan Acreage Summary in Community Planning Areas

Land Use Category:	Urban Residential	Rural Residential	Commercial	Industrial	Public/ Semi-Public	Parks-Recreation	Agriculture-Transition	TOTAL
<u>Community</u>								
Arbuckle	345	164	60	82	69	29	32	781
College City	--	84	8	111	--	5	--	208
Colusa	1,236	590	172	777	236	269	1,064	4,344
Grimes	52	20	14	11	8	--	28	133
Maxwell	274	1,115	61	840	32	--	398	2,720
Princeton	55	--	4	--	17	--	154	230
Stonyford	--	114	14	--	78	61	547	814
Williams	985	400	420	1,871	106	10	1,360	5,152
TOTAL	2,947	2,487	753	3,592	546	374	3,583	14,382



Circulation Element

THE CIRCULATION ELEMENT

"As the transportation facilities of a community are, so is the community. A community without water transportation, with inadequate facilities for railroad traffic, and with bad roads cannot hope to be prosperous and progressive in any great degree; and the possession of these advantages goes a great way toward counteracting the lack of others".

McComish and Lambert
History of Colusa County, 1918

ORGANIZATION OF THE CIRCULATION ELEMENT

The Circulation Element addresses the movement of people and goods through Colusa County. All cities and counties in California are required to have a plan for streets, highways, public transit, airports, railroads, waterways, bicyclists and pedestrians, pipelines, and electric transmission lines. Each of these systems will be impacted somehow by the changes in land use that are planned during the next two decades. This element summarizes these impacts and describes the improvements that will be needed to ensure continued mobility in the county. The Element has relied heavily on the 1986 Regional Transportation Plan as the source of information and recommendations.

The Element begins with an explanation of its intent and the factors that must be taken into consideration when planning circulation improvements. The legal basis for circulation planning is cited, and the relationship of this element to other transportation plans--namely the Regional Transportation Plan and the Caltrans District 3 Systems Management Plan--is reviewed. An overview of each component of the circulation system is provided, followed by an assessment of the impact of the land use plan on circulation needs. Circulation policies which achieve the goals and objectives set forth in Chapter II are then presented. These policies are tied to a countywide plan for circulation improvements and to thoroughfare plans for Arbuckle, Colusa, Maxwell, and Williams. This chapter also includes a section on scenic highways, listing policies that protect and enhance the visual qualities of the county's roads.

BACKGROUND

THE TRANSPORTATION PROBLEM

Most Colusa Countians agree that scenic, uncongested roadways are one of the county's greatest assets. They recognize the county's good fortune in being spared the traffic jams and gridlock conditions that have become prevalent in many of the state's urban and resort areas. At the same time, county residents agree that Colusa County roads are far from ideal. Many segments of the road system are in poor condition. Driving in the county can be dangerous as well as damaging to motor vehicles.

Despite its relatively low traffic volumes and smooth operating conditions, Colusa County's road system faces serious maintenance problems. A financial crisis brought about by increasing travel demand, soaring construction costs, and decreasing state and federal funds has prevented the county from expanding its transportation system. More significantly, maintenance of the existing system has been deferred, reducing the capacity of the system as well as hindering its expansion.

Maintenance of the county's roadways is more than just a local concern; the county's road system furnishes mobility to agricultural and timber vehicles which serve state and even national markets. About 2 million tons of field crops and up to 1 million board feet of lumber are transported on county roads each year. Many of the vehicles responsible for the high cost of maintaining Colusa County roads--farm trucks, lumber trucks, and recreational trailers--originate outside the county and contribute nothing to the repair of county roadways. As this situation continues in the future, the gap between road costs and county finances will become greater. Inequities between those who use the road system and those who are left paying for improvements will also become greater.

Because road improvement needs far exceed local financial resources, a greater emphasis has been placed on making the most efficient use of existing transportation systems rather than expanding or building new systems. The most conventional way to do this is to encourage the use of public transit, to improve provisions for pedestrians and bicyclists, and to establish ridesharing and carpooling programs. Unfortunately, all of these approaches are best suited to urban settings and can only achieve limited success in a rural area like Colusa County.

In Colusa County, the most effective method to reduce future traffic problems is to encourage a community-centered land use pattern in which people travel relatively short distances between their homes, work places, shopping places, schools, and recreational areas. Each community's land use plan should encourage some degree of self-sufficiency. The land use plan should also consider the capacity of the existing transportation system and should locate future development in those areas where road improvements can be kept to a minimum. Developments which mandate new or improved roadways must pay their fair share of construction costs.

OVERVIEW OF ONGOING CIRCULATION PLANNING ACTIVITIES

Caltrans District 3

Assembly Bill 69 (1972) created the California Department of Transportation (Caltrans) and established a requirement for Statewide and regional transportation planning. The Systems Management Plan (SMP) for District 3, published in June, 1986, focuses on getting goods, people, and services moved to where they need to go.

The District 3 SMP is designed to guide improvements to the State highway system over the next 20 to 30 years. The Plan identifies current and projected system deficiencies and sets priorities for future improvements in an 11-county area that stretches from Sacramento to Chico and from the Coast Range to Nevada. The Plan acknowledges the fiscal constraints mentioned in the previous section. It gives first priority to roads which support the economy and commerce of the state, second priority to "lifeline" routes that provide the only means of access to smaller cities

and towns, and third priority to local routes that serve recreational traffic or areas with very low populations. In Colusa County, only Interstate 5 is designated a first priority route, and only Highway 20 is a second priority route. State Highways 16 and 45 are designated third priority routes, indicating that lower service levels are acceptable.

The focus of the SMP is on the Sacramento Metro Area and on Interstate 80. Because of the low growth assumptions for Colusa County, few improvements were found to be necessary to the portions of the state and federal highway systems in the county. In fact, of the four alternative funding plans developed in the SMP, only one assumes any major improvements to Colusa County state highways between now and the year 2005. This improvement would be a 2-lane bypass around Colusa to alleviate projected high volumes of truck traffic in town on Highway 20. The \$6.5 million project is scheduled for the 1990-1995 State Transportation Improvement Plan, but has been assigned a relatively low priority.

Subsequent revisions to the SMP should consider revised population forecasts for the county as well as the land use and circulation plans contained within this document. Larger growth forecasts for Williams and Colusa and higher traffic volumes on Highway 20 may justify raising the priority ranking of the Bypass project.

Colusa County Local Transportation Planning Commission

The Colusa County Transportation Commission was initially established to administer the regional funds for roadway improvements originating from the state sales and gasoline taxes. In 1977, the Commission became one of 43 agencies in California delegated as the governing body for regional transportation planning, and was charged with the task of preparing and regularly updating a countywide transportation plan. The first plan had actually been prepared in April, 1975. It was updated in 1976, 1982, and 1986. The 1986 plan included separate documents for general transportation planning and transit planning.

The Commission consists of three members of the Board of Supervisors, and three council members from the cities of Colusa and Williams. An annual work program is prepared each year identifying the activities necessary to prepare and administer the Regional Transportation Plan. The Commission is aided by a Technical Advisory Committee consisting of planning and engineering staff members from the County and two cities, and representatives from Caltrans and the California Highway Patrol.

The 1986 Regional Transportation Plan provides a policy framework for recommendations, actions, and decisions affecting the county's transportation system. It differs from the Circulation Element in that it focuses on regional needs and the linkages between the county's road system and the rest of Northern California. By contrast, the Circulation Element focuses on the implications of the future land use plan for local transportation improvements. The Circulation Element attempts to coordinate circulation plans with the other elements of the plan so that local objectives regarding noise, safety, air quality, energy conservation, and environmental protection may be accomplished. Both the Circulation Element and the Regional Transportation Plan share the common goal of improving mobility and establishing locations for new thoroughfares, terminals, and transit routes.

COMPONENTS OF THE CIRCULATION SYSTEM

Streets and Highways

Streets and highways form the most important component of the county's transportation system--both for the movement of local commodities and local residents. Air freight is virtually nonexistent, the railroad carries only a small volume of local goods, and river freight service has been discontinued. The road system is the most flexible form of transportation in the county, providing the greatest choice of destinations and routes between producers, distributors, and consumers. The network is used extensively by automobiles, trucks, buses, taxicabs, farm machinery, bicycles, pedestrians, and even horseback riders. Sometimes the multiple use of the roads by so many transportation modes creates conflicts between the different users, particularly farm machinery and automobiles.

The street and highway system contains 113 miles of State highways, 741 miles of county roads, 35 miles of City streets, and 160 miles of Forest Service roads. Travel on State highways averaged 830,000 Daily Vehicle Miles in 1987, up from 759,000 in 1984. As of 1987, there were 8,234 automobiles (57 %), 5,779 trucks (41 %), and 345 motorcycles (2 %) registered in Colusa County. At the same time, there were 10,600 licensed drivers, representing about 70 percent of the county's population.

The roadway system consists of a hierarchy of principal arterials, minor arterials, major collectors, minor collectors, and local streets. The principal arterials are the most critical roads, while the local streets serve individual residences or farms. The U.S. Forest roads function as a separate but interdependent system. Table CIRC-1 shows the current mileage in each component of the street and highway system. The table also includes current traffic volumes on each type of road. The location of principal arterials and collectors is shown in Figure CIRC-1.

The framework of the County's circulation system is formed by Interstate 5 and Highway 20, the two roads of inter-regional significance which cross the county. Together with State Highways 16 and 45, these are the primary roads linking Colusa County with the rest of California. I-5 is the state's major north-south access route, while Highway 20 is the only major mountain crossing between the Pacific Coast and the North Sacramento Valley. Because these two roads are the prime arteries for moving local produce to market, it is essential that a high level of service be maintained on both.

The intersection of I-5 and Highway 20 in Williams is considered the transportation hub of the county. I-5 and the portion of Highway 20 between Williams and the Lake County line are both designated **Principal Arterials**. Highway 20 east of Williams, Highway 45 north of Colusa, and Highway 16 are designated **Minor Arterials**. Although these roads compose less than 10 percent of the county's road mileage, they carry one half of the county's traffic. These roads are also designated Federal-Aid Primary routes (I-5 is a Federal-Aid Interstate route), making them eligible for funding through the Federal Highway Administration.

Principal and Minor Arterials are supplemented by about 100 miles of **Major Collectors**, including the Stonyford-Lodoga Road, the Maxwell-Colusa Road, River Road, Gridley Road, Highway 45 between Yolo County and Sycamore, Norman Road, Lone Star Road, County Line Road, Hillgate Road, Hahn Road, Cortina School Road,

COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

scale in miles 0 1 2 3 4 5

**Figure CIRC-1
STREET AND
HIGHWAY SYSTEM**

- Interstate and Other Principal Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors
- Proposed New Roadways

Sedway Cooke Associates

scale in miles

Table CIRC-1: Colusa County Roadways: Total Miles and Vehicle Travel

<u>Roadway Classification</u>	<u>Total Miles</u>	<u>1985 Daily Vehicle Miles</u>
Principal Arterials	56	579,000
Minor Arterials	57	135,000
Major Collectors	102	130,000
Minor Collectors	162	146,000
Local Roads	530	207,000
U.S. Forest Service Roads	160	53,000
TOTAL	1,067	1,250,000

Source: 1986 Regional Transportation Plan.

Zumwalt Road, and Arbuckle-Grimes Road. These roads are designated Federal-Aid Secondary roads, making them eligible for funding through the Federal Highway Administration. They are the highest classified segments of the County road system and serve travel of intra-County importance. The roads are typically rural mail routes, farm-to-market routes, public school bus routes, and major access routes between towns within the county.

The system is further supplemented by 162 miles of **Minor Collectors**, including Bear Valley Road, Danley Road, McDermott Road, Old Highway 99, Lurline Road, Four Mile Road, Walnut Drive, Husted Road, Able Road, Meyers Road, Wildwood Road, Green Bay Road, College City Road, Tule Road, Poundstone Road, Sycamore Slough Road, and San Jose Road. Travel is generally limited to short segments on these roads, although some through-traffic occurs.

Fifty percent of the county's road system consists of **Local Roads**, including city streets and many rural farm roads. Most of the rural area roads are gravel or dirt. Although local roads represent half of the total road mileage in Colusa County, they carry only one-seventh of the total traffic.

Public Transit

The travel demands of Colusa County residents are accommodated almost solely by the use of the automobile. However, there are segments of the population who either have no access to a car, are too young to drive, or are physically disabled. These individuals must rely on the county's public transit system.

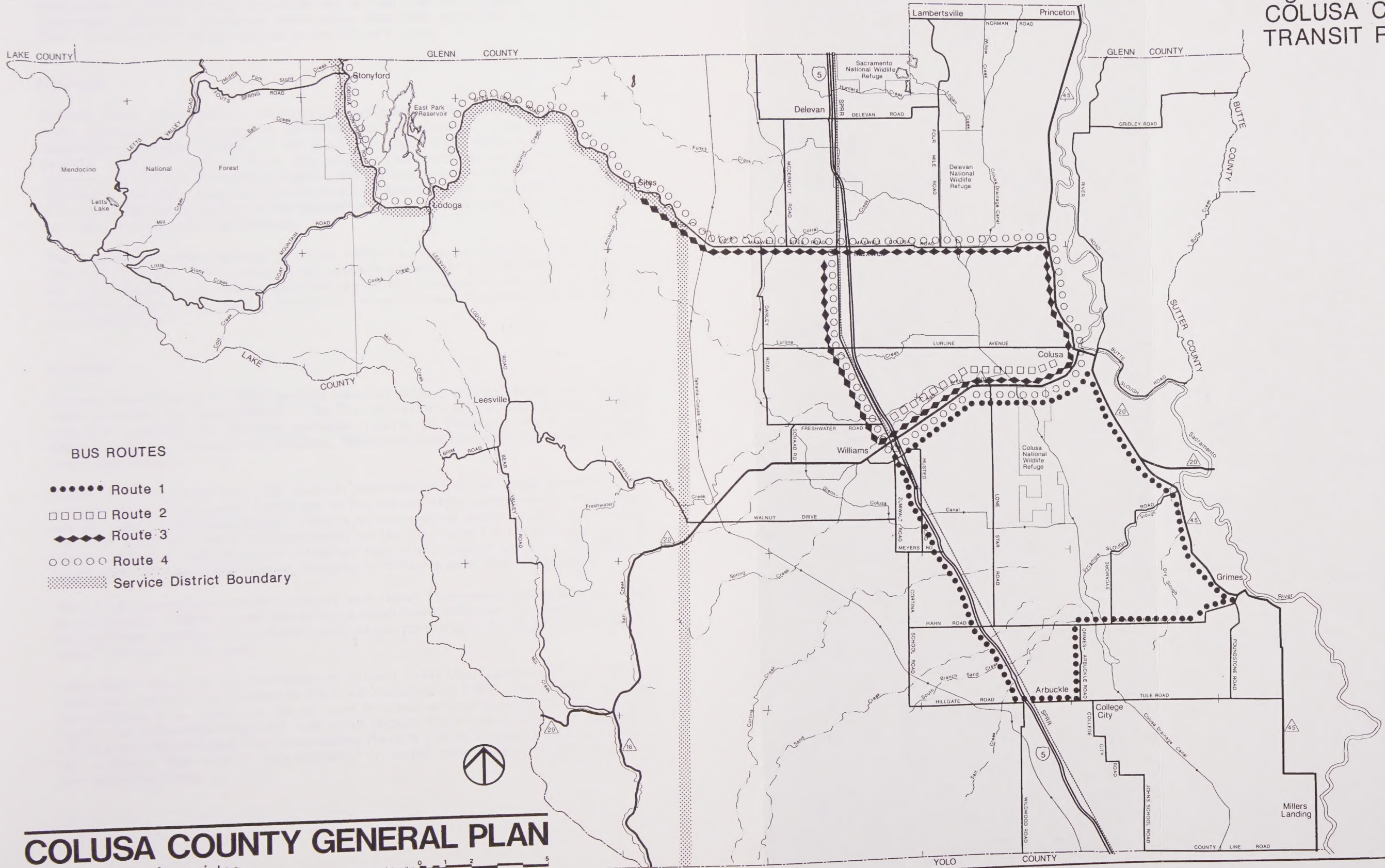
The Mini-Transit Program (MTP) provides mobility to transportation-disadvantaged people between Colusa, Williams, Arbuckle, Maxwell, Grimes, College City, Sites, and Stonyford-Lodoga. The system provides modified dial-a-ride service along four scheduled routes, with the frequency of service varying from daily to bi-weekly. The routes are shown in Figure CIRC-2. Fares are \$.75 in town and \$1.25 in the county.

Colusa County Transit uses five van-buses and one station wagon as carriers, with three of the vans lift-equipped for the handicapped. Three of the vehicles have well over 100,000 miles and have been driven beyond their normal life expectancy. The vehicles are stored in a vacant airplane hangar at the Colusa Airport and are not maintained at any centralized location. A new van-bus is presently being purchased, allowing the older vehicles to function as back-up vans. The transit service carried 41,318 passengers during the 1987-88 fiscal year, with 75 percent of the patronage in Colusa and Williams. Ridership increased steadily after the system's inception in late 1979, growing by 250 percent between 1980 and 1985, but has leveled off during the late 1980s.

The system is supplemented by a privately owned partially-subsidized taxi company which operates in the evenings as well as during the day. The taxis only operate under certain conditions during the day; on weekdays, most riders must wait until after 5:00 P.M. to use the service. About 85 percent of the taxi patrons reside in Colusa and Williams. Taxis carried 7,362 passengers during the 1987-88 fiscal year.

There are two other forms of bus transportation operating in Colusa County. Thirty public school buses travel 250,000 miles each year on Colusa County roads, transporting students to the county's schools. Western Greyhound Lines Company provides nine northbound and seven southbound buses each day along Interstate 5 with sched-

Figure CIRC-2
COLUSA COUNTY
TRANSIT ROUTES



uled stops in Williams and Arbuckle and a flag stop in Maxwell. In addition to Greyhound, Cascade Trailways also makes one daily scheduled stop in Williams. There is no commercial bus access to the city of Colusa.

Railroad

Amtrak discontinued service through Colusa County in 1982. The closest passenger train service is in Marysville, 25 miles east of Colusa. The Amtrak stop at Marysville provides service for the Coast Starlight train which operates between Seattle and Los Angeles. Buses also stop in Marysville to connect with the San Joaquin train which operates between Oakland and Bakersfield. One of the Shasta Skyhawk's two daily stops in Williams makes connections (on a reservations basis) to Amtrak's California Zephyr at the Sacramento Amtrak Station; this train provides service eastward as far as Chicago.

The Southern Pacific Railroad provides freight service to Arbuckle, Williams, and Maxwell. The line runs parallel to I-5, providing the main rail link between California and Oregon. Two trains a day operate on the line, one during the day and one around midnight. The branch line which served Grimes, Princeton, and Colusa has been abandoned.

Aviation

Colusa County has one public general aviation airport and numerous landing strips used primarily for crop dusters. The Colusa County Airport has one 60' x 3000' asphaltic concrete and concrete surfaced runway, 22 T-hangars and 2 conventional hangars, and one maintenance building. Medium-intensity runway lights are provided from dusk to dawn.

During 1985-86 there were 132 aircraft reported on the tax rolls, down from 143 aircraft the previous year. Statistics on the annual flight operations of these planes are not kept on a regular basis. There is no commercial flight service from Colusa; residents generally travel to Sacramento or the Bay Area for long-distance travel. Shasta Skyhawk operates vans offering two daily roundtrips from Redding to Sacramento Metropolitan Airport, stopping in Williams on a reservation basis.

Most flight operations are agricultural, with about 15 crop-dusting companies based in the county. Aircraft have proven to be much more effective for pesticide, fertilizer, and seed spraying than ground applications, particularly for rice fields which are saturated much of the year.

Legislation requiring the formation of Airport Land Use Commissions (ALUCs) in California counties was passed in 1967 and modified in 1982. The purpose of these commissions is to guide the use of land in areas around airports to ensure public safety and prevent development that could impede flight operations. Colusa County still has no Airport Land Use Commission; there is a local Airport Advisory Committee in Colusa that acts on such matters. A formal commission may be established during the next year.

Waterways

The Sacramento River is considered navigable as far north as Colusa and is under the jurisdiction of the U.S. Coast Guard. The U.S. Army Corps of Engineers is responsible for dredging the river downstream of Colusa to maintain capacity for commercial barges.

The river is spanned by two bridges; one on Route 20 at Meridian (Sutter County) which can be opened to provide additional vertical clearance for river traffic, and another on River Road in Colusa. The Route 20 Bridge was rebuilt in 1977 to higher standards, while the River Road bridge was built in 1980 to replace a historic railroad swing bridge. The center span of the Colusa Bridge can actually be lifted out so that large vessels can pass below during emergencies.

The Princeton Ferry provides a third river crossing about 15 miles up-river from Colusa. The ferry, which was recently renovated, connects Princeton with the town of Afton in Glenn County. Until recently, the cost of operating the ferry was shared jointly by the two counties. However, Colusa County bought Glenn County's interest in the operation for \$150,000 and is now operating the service independently. When operating, the ferry serves about 200 cars a day.

The Colusa County Transportation Plan recommends that the ferry ultimately be replaced by a bridge about 3 miles south of Princeton. Studies indicating the feasibility of such a bridge have yet to be undertaken. Nevertheless, the ferry has important nostalgic, historic and cultural value. The public strongly favors that service be retained, regardless of bridge construction. The location of the ferry crossing and the proposed bridge are both shown on Figure CIRC-1.

Bicycle, Hiking, and Off-Road Vehicle Trails

The Central Valley bicycle trail, part of a statewide network for inter-regional travel, runs parallel to Interstate 5 in Colusa County. No other formal bicycle trails exist in the county, although the possibility of a trail along the Sacramento River was raised in the 1986 Regional Transportation Plan. However, since the majority of the riverfront is in private ownership, construction of such a trail is unlikely.

Hiking, horseback, and off-road vehicle trails in the county are generally located on public lands, notably in the Mendocino National Forest. The popularity of these trails has increased over the past decade and will continue to do so in the future. The extent of these activities is addressed in the Open Space Element of this Plan.

Pipe and Transmission Lines

Pacific Gas and Electric (PG&E) has a 36" gas line running parallel to Interstate 5 through the county. PG&E and the U.S. Bureau of Reclamation have two 230 kV transmission lines which also follow a north-south alignment through the county. There are numerous smaller power lines and pipelines traversing the county.

A new 230 kV overhead transmission line traversing Colusa County has been proposed by a consortium of four public agencies: Sacramento Municipal Utility District,

Northern California Power Agency, Modesto Irrigation District, and the City of Santa Clara. The power line would transmit electrical energy from the Geysers Geothermal Resource Area in Sonoma County to a substation whose exact location has yet to be determined. Fifty corridor combinations were considered for the routing of the transmission line, ranging from about 50 to 100 miles in length.

Of the two preferred alternative alignments, one traverses the hills of western Colusa County before dropping to the Valley floor and terminating at Williams. A 17-acre site would be required for construction of a substation. In Williams, the power line would interconnect with existing power lines.

RELATIONSHIP BETWEEN THE CIRCULATION AND LAND USE PLANS

The circulation system and development pattern of a community are interdependent. Each pattern of land use generates different requirements for streets, highways, transit, and other modes of transportation. The future circulation system must be designed to adequately serve the level of development allowed by the plan. This often means new traffic lights, widened roadways, realigned highways or bypasses, and new bridges.

At the same time, the qualities of the existing circulation system are a major consideration in designating areas for future development. Perhaps no other feature will influence future land use in Colusa County more than Interstate 5. Areas adjoining freeway interchanges are logically suited for more intense uses such as commerce and industry, since these uses require quick and easy access to regional transportation routes.

Since the cost of new transportation facilities is great, the land use plan must reflect the constraints presented by the existing road system. For instance, it is impractical to relocate an airport, but it is practical to designate land around the airport for business or industrial uses. This serves the dual purpose of ensuring aviation safety and providing development sites near the airport for those land uses which most require proximity to air transportation.

While the General Plan prescribes a future development pattern, it also presents the necessity of modifying current circulation plans as needed. The Plan must incorporate ways to guide development so that the desired circulation system is constructed with the minimum expenditure of private and public funds and with minimum disruption of existing uses. Growth must be directed to those areas where road capacity exists or can be made available with relative ease.

FUTURE CIRCULATION CONDITIONS

LONG-RANGE TRANSPORTATION DEMAND

Sources of Traffic Increases

Increases in traffic on Colusa County roads will emanate from two sources. First, as population and employment in the State and region grow, more cars will use Interstate 5 and Highway 20. Recreational travel demand will grow, putting more ve-

hicles on the roads to the National Forest and other recreational areas in the county. Even if no growth were to occur within the county during the next 20 years, traffic on the principal arterials would increase. Inter-city travelers between fast-growing cities like Sacramento and Redding, and Yuba City and Clear Lake will utilize Colusa County's road network in increasing numbers.

The second component of traffic growth will be created by local population and employment increases. The vast majority of this increase will occur in Arbuckle, Colusa, Maxwell, and Williams. Traffic will increase both on local and collector roads within these communities and on the state and county roads that link the communities to one another. In addition, increases in agricultural activity brought about by the Tehama-Colusa Canal, possible mining activity in the Wilbur Springs area, and timber leases in the forest will add to traffic on the rural network.

The impact of both local and regional growth on the road network was calculated by Caltrans in 1986 to determine what facilities would be needed in the future. Their focus was on inter-city travel rather than on travel within any particular community. In other words, the study's recommendations involved rural highways rather than city streets and intersections. The Caltrans study also assumed slightly lower levels of growth in the county than those used by the General Plan, so projected traffic volumes were somewhat understated.

The Caltrans projections are summarized in Table CIRC-2. The total vehicle miles traveled each day in Colusa County are projected to rise about 60 percent by the year 2010, from 1,250,000 to 2,015,000. The biggest increase, both in sheer numbers and percentages, is on the principal arterials. The magnitude of the increase becomes smaller as the road functions become more local in nature. Thus, while I-5 is projected to experience more than a 70 percent increase in traffic by 2010, local roads in the county will only experience an average traffic increase of 40 percent. Of course, some local roads will experience much greater traffic increases, while others may experience no increases at all. The impact of new development will be felt on a relatively small portion of the county's road network. Rural dirt roads isolated from communities may carry the same number of cars in 2010 as they do now, while local streets in Colusa and Williams may see a doubling in their traffic volumes. To determine which specific roadways will be most impacted, a closer look at each community's land use plan is required.

Level of Service

Every roadway has an absolute capacity, that is, a maximum number of vehicles that can be moved on the roadway at any given time. As traffic volumes approach capacity, congestion results and traffic no longer moves at an uninterrupted flow. The degree of congestion is referred to as the "Level of Service" (LOS) and is usually denoted by a letter from "A" to "F". The type of operating conditions occurring under each LOS is shown in Table CIRC-3.

Regional Travel Needs

Caltrans has determined the minimum acceptable LOS on all state highways in Colusa County. LOS "B" is considered the lowest acceptable condition on Interstate 5, LOS "C" is the lowest acceptable condition on Highway 20, and LOS "D" is the lowest acceptable condition on Highways 16 and 45. The Level of Service on each

Table CIRC-2: Colusa County Roadways: Projected Daily Vehicle Miles, Years 2005 and 2010

<u>Roadway Classification</u>	<u>1985 Daily Vehicle Miles</u>	<u>Year 2005 Daily Vehicle Miles</u>	<u>20-Year Percent Increase</u>	<u>Year 2010 Daily Vehicle Miles¹</u>
Principal Arterials	579,000	914,000	50%	999,000
Minor Arterials	135,000	207,000	53%	224,000
Major Collectors	130,000	195,000	50%	211,000
Minor Collectors	146,000	204,000	40%	219,000
Local Roads	207,000	273,000	32%	290,000
U.S. Forest Service Roads	53,000	69,000	30%	73,000
TOTAL	1,250,000	1,862,000		2,016,000

Source: 1986 Regional Transportation Plan.

¹ Year 2010 figures are based on a continuation of the 1985-2005 trend forecasted by Caltrans.

Table CIRC-3: Highway Level of Service Interpretations

Level-of-Service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

Level-of-Service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream. The level of comfort and convenience is somewhat less than at LOS A because the presence of others in the traffic stream begins to affect individual behavior.

Level-of-Service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The level of comfort and convenience declines noticeably at this level.

Level-of-Service D represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted and the driver or pedestrian experiences a poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

Level-Of-Service E represents operating conditions at or near the capacity level. All speeds are reduced to a low but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high.

Level-of-Service F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop and go waves, and they are extremely unstable. Vehicles may progress for several hundred feet or more, then be required to stop in a cyclic fashion.

Source: 1985 Highway Capacity Manual

roadway can be determined by calculating the number of vehicles per lane that use the road during the peak hour. Level of service standards vary according to the total number of lanes, intensity of adjoining uses (urban vs. rural), and presence of cross-traffic. For instance, the 1985 Highway Capacity Manual indicates that a four-lane freeway carrying 1,000 cars per lane per hour operates at LOS "B", while a two-lane rural highway carrying 1,000 cars per lane per hour operates at LOS "E".

Interstate 5 currently carries between 15,400 and 18,500 vehicles per day, with about 2,000 vehicles at the peak hour in Williams (both directions). This translates to about 500 vehicles per lane at the peak hour, which is well within the limits of LOS "A". Forecasts for the year 2010 indicate a 72 percent increase in miles traveled on Colusa County primary arterials, or an increase in traffic on I-5 to about 850 vehicles per lane during the peak hour. This is below the limits of LOS "B", indicating that no improvements to the Interstate will be required.

Highway 20 carries about 4,000 vehicles a day between Williams and Colusa, about 3,600 vehicles over the hills to Lake County, and about 3,800 vehicles east to Sutter County. Peak hour volumes range from 370 cars to 500 cars per hour in both directions, which is the approximate lower limit of LOS "A". A 70 percent increase in traffic volumes as projected by Caltrans would bring traffic volumes to as high as 850 cars during the peak hour on the segment of road between Williams and Colusa. This is still considered LOS "B", indicating that no improvements will be required.

One shortcoming of this calculation is that the effects of slow-moving trucks and farm vehicles on traffic is not considered. Since the road will remain a two-lane highway, delays due to slow-moving vehicles could make conditions worse than projected. For this reason, the Circulation Element includes a policy supporting the widening of highways to accommodate farm vehicles, and the addition of passing lanes in steep areas such as Highway 20 West.

A second shortcoming of this calculation is that it does not consider specific segments of the highway system that may be impacted by growth within the county. The situation is most critical in the city of Colusa, where the increase in regional traffic may be accompanied by large increases in local traffic. By the year 2010, about 2,600 additional trips will occur on Market Street (Highway 20) in Colusa each day with origins and destinations beyond the city limits. This traffic will be added to the 10,000 daily trips occurring on Market Street now, and several thousand additional trips that will occur as new homes and jobs are added within Colusa. According to Caltrans, the resulting traffic volumes on Market Street will drop to LOS "E" by the year 2005.

In response to the poor operating conditions, a two-lane 3.5-mile bypass has been proposed from Highway 20 at O'Hair Road to Highway 20/45 just south of the Colusa Airport. The new roadway would be located just south of the abandoned railroad bed south of Colusa. To facilitate economic development in Colusa and avoid lengthy traffic delays, it is imperative that the bypass be constructed before the horizon year of this plan. Traffic volumes on North Highway 45 may also warrant construction of a new road on the west side of Colusa. The road would extend about 3.5 miles north from the proposed Highway 20 bypass near Wilson Road and would terminate near Harbison Road. Location of the proposed bypass is shown in Figure CIRC-1.

Local Travel Needs

The Highway 20/45 bypass described above will primarily serve regional traffic. The potential addition of 8,000 new residents to Colusa, Williams, Arbuckle, and Maxwell will create the need for improvements to the local street system as well. Existing streets will need to be widened, signals or directional signage may need to be added, and new streets will be constructed in developing areas. It is imperative that these streets become a logical extension of the existing street system as they are built. Street layout should also follow prescribed policies which inhibit industrial traffic from entering residential areas and minimize the traffic impact of new projects on existing neighborhoods.

An assessment of roadway needs based on the future land use plans in each community was conducted as part of the general plan update. It was determined that the level of growth projected in College City, Grimes, Princeton, and Stonyford would not warrant major road improvements within these communities. On the other hand, the need for thoroughfare plans showing the alignment of new collector streets was clear in Arbuckle, Colusa, Maxwell, and Williams.

Even with these plans, there will still be a need for more detailed traffic studies as individual developments are proposed. The location of specific improvements such as turning lanes and traffic lights should be determined through follow-up studies after the General Plan is adopted, as well as through Environmental Impact Reports prepared for individual projects. For instance, it is conceivable that mining operations in the foothills could generate the need for roadway reconstruction in the West County, but it is impossible to prescribe specific improvements until the location and scale of the operation is known.

In most cases, changes to the county's rural road network were found to be either unnecessary or impractical between now and the year 2010. However, the Stonyford-Lodoga-Maxwell Road is in very poor condition and must be upgraded to handle higher volumes of recreational and residential traffic. A citizens group recently formed to address the problems of this road and to hasten the repair of its most unsafe portions. Repair of the road is regarded as a necessity to the safety of both residents and visitors. Its maintenance must be made a top priority.

Growth in the other rural areas will not be substantial enough to justify the paving of dirt or gravel roads, and in no area does projected rural growth warrant the construction of new roads. The only possible modifications to the rural network would be the re-routing of Sites-Lodoga Road if the Sites Reservoir is built, and the extension of Gridley Road across the Sacramento River to Highway 45.

Roads such as Lone Star Road, Able Road, and Sites-Lodoga Road may see large increases in traffic, but the volume expected does not warrant the addition of lanes or traffic control devices. The most critical issue on these roads will continue to be maintenance. Additional traffic will mean faster deterioration of the roadways and greater safety hazards, and more inconvenience in the event a road is closed. Funds for road maintenance and safety markings are likely to remain inadequate unless additional State money can be obtained.

In locations where a public road serves only one or two isolated rural homes, it may be possible to "privatize" the roads and leave most maintenance responsibilities to the property owners. However, private road maintenance agreements often fail, resulting in poorly maintained roads, inadequate emergency access provisions, and

pressure by County residents served by these roads for county intervention. If roads deteriorate or if traffic increases in a particular locale, local residents can petition to form a road improvement district to solve their road problems.

STREET AND HIGHWAY IMPROVEMENTS

Thoroughfare Plans

Thoroughfare plans for Arbuckle, Colusa, Maxwell, and Williams are presented on the following pages. Each plan shows existing arterial and collector streets, as well as proposed collector streets in projected growth areas. The proposed collectors are usually extensions of existing streets or part of an independent system serving a planned industrial area.

The thoroughfare plans should not be confused with capital improvement plans. At this time, the county has no intent to construct any of the roadways shown as "proposed" on the plans. The plans' purpose is to ensure that circulation systems within new developments fit into a larger system of streets that serve the whole community. As new areas are developed, rights of way for collector streets should be dedicated in accordance with each plan. Roads would generally not be built until the adjacent properties were actually developed.

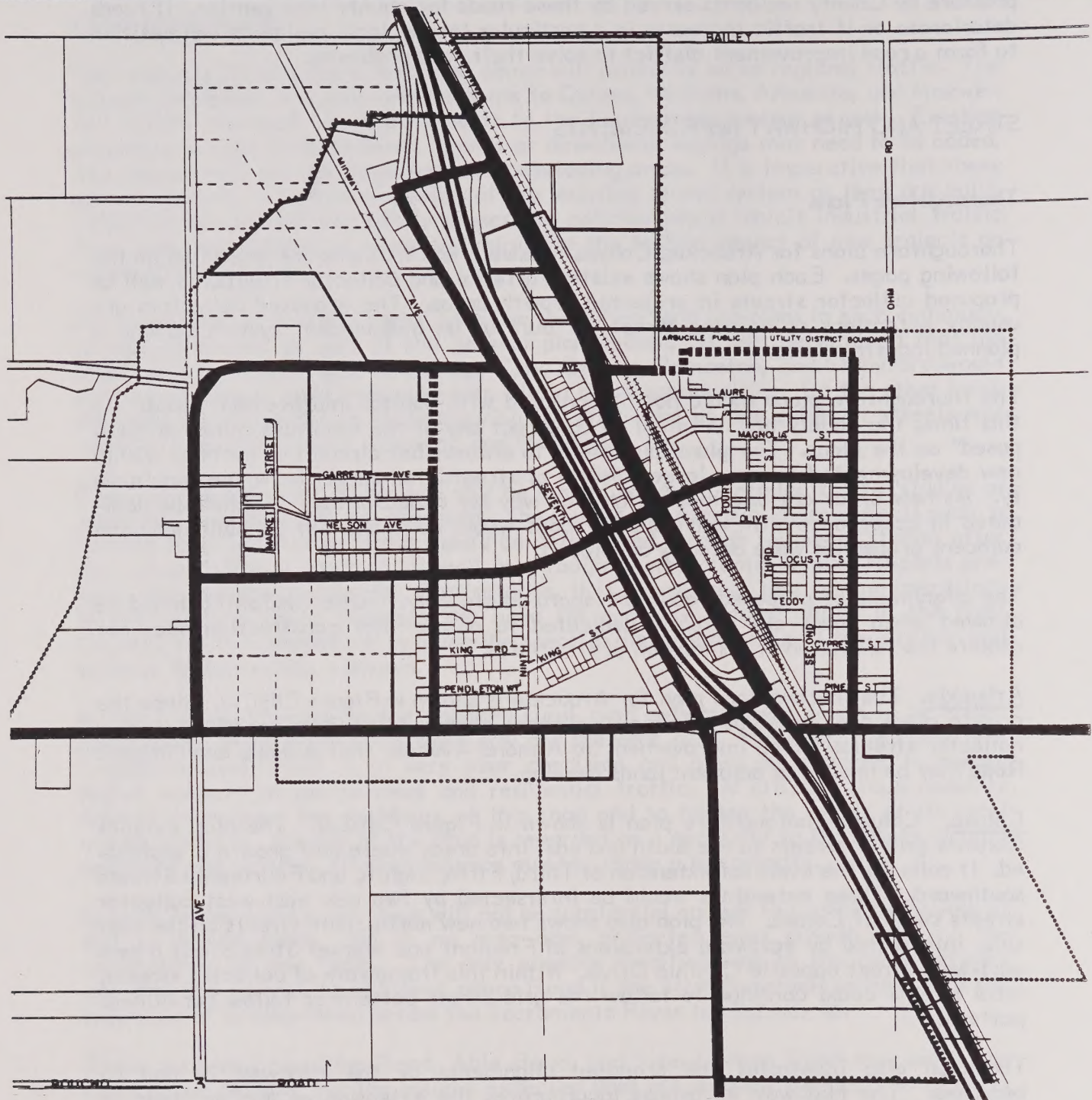
The alignments of proposed roads are approximate only. Some flexibility should be allowed when roads are actually dedicated to ensure that construction does not require the relocation or demolition of structures.

Arbuckle. The thoroughfare plan for Arbuckle is shown in Figure CIRC-3. Since the growth areas are framed by existing rural roads, there will be little need for few new collector streets. Some improvement to Almond Avenue, Gail Avenue and Hillgate Road may be needed as adjacent lands develop.

Colusa. Colusa's thoroughfare plan is shown in Figure CIRC-4. The plan extends Colusa's grid of streets to the south and east into areas where new growth is projected. It calls for the eventual extension of Third, Fifth, Eighth, and Fourteenth Streets southward. These extensions would be intersected by two new east-west collector streets south of Colusa. The plan also shows two new north-south streets on the east side, intersected by eastward extensions of Fremont and Market Streets and a new east-west street opposite Cynthia Drive. Within this framework of collector streets, local streets could continue to follow the grid street pattern or follow curvilinear patterns.

The plan also illustrates the proposed alignments of the Highway 20 and 45 bypasses. The Highway 45 bypass incorporates the extension of McCoy Road to Lurline Road, with McCoy continuing north to Harbison Road. The McCoy extension north of Lurline is unlikely before the year 2010 unless a Highway 45 bypass is funded by the State.

Maxwell. Maxwell's thoroughfare plan is shown in Figure CIRC-5. The plan reinforces the grid of streets around which the town has historically developed. To the west, extensions of North Street and Sycamore Street should occur, and at least one north-south connection between these two streets should be established. To the east, North Street should ultimately extend into the planned industrial area.



LEGEND

	Existing	Proposed
Community Arterial		
Community Collector		
Interstate Highway		

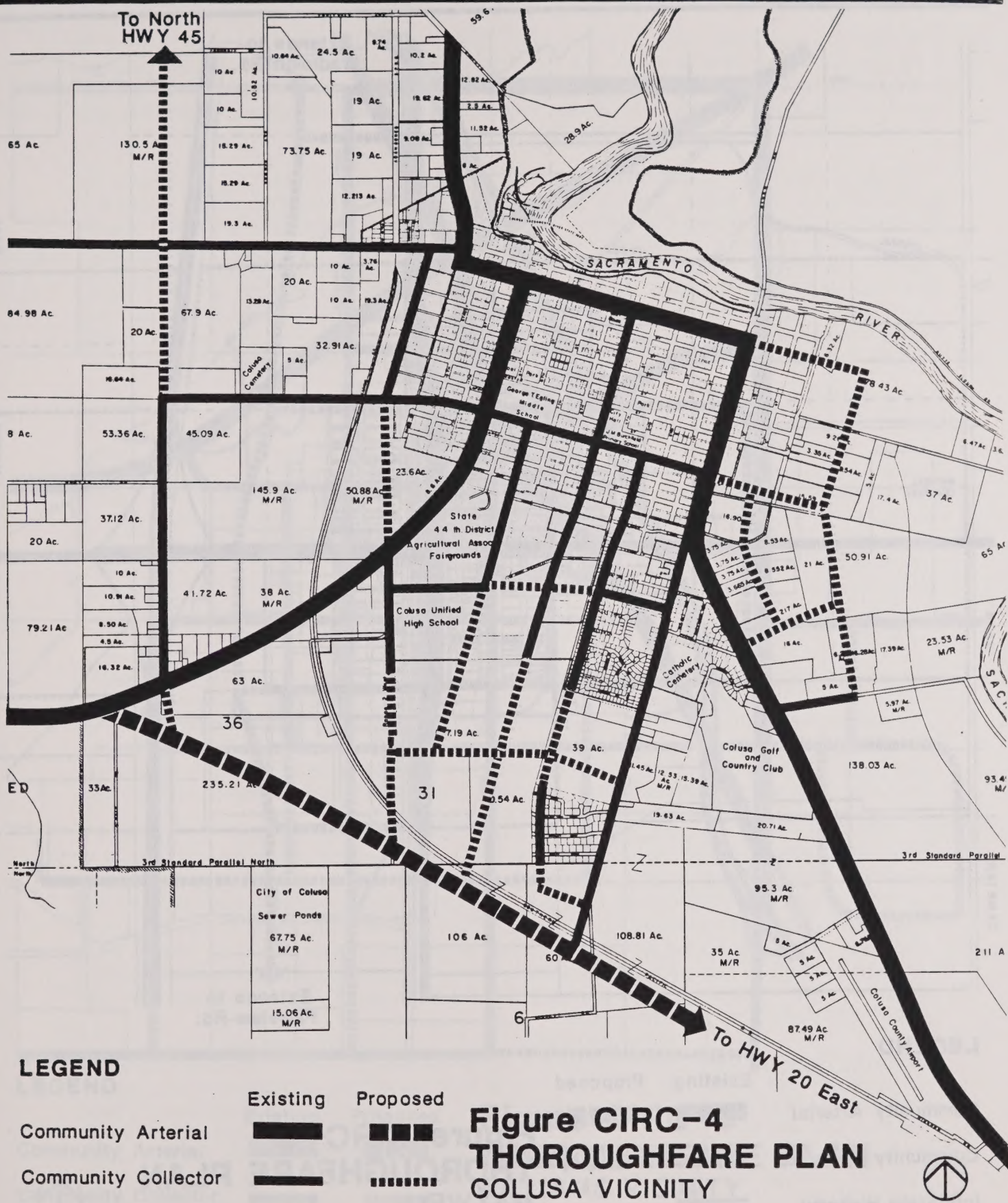
Figure CIRC-3
THOROUGHFARE PLAN
ARBUCKLE



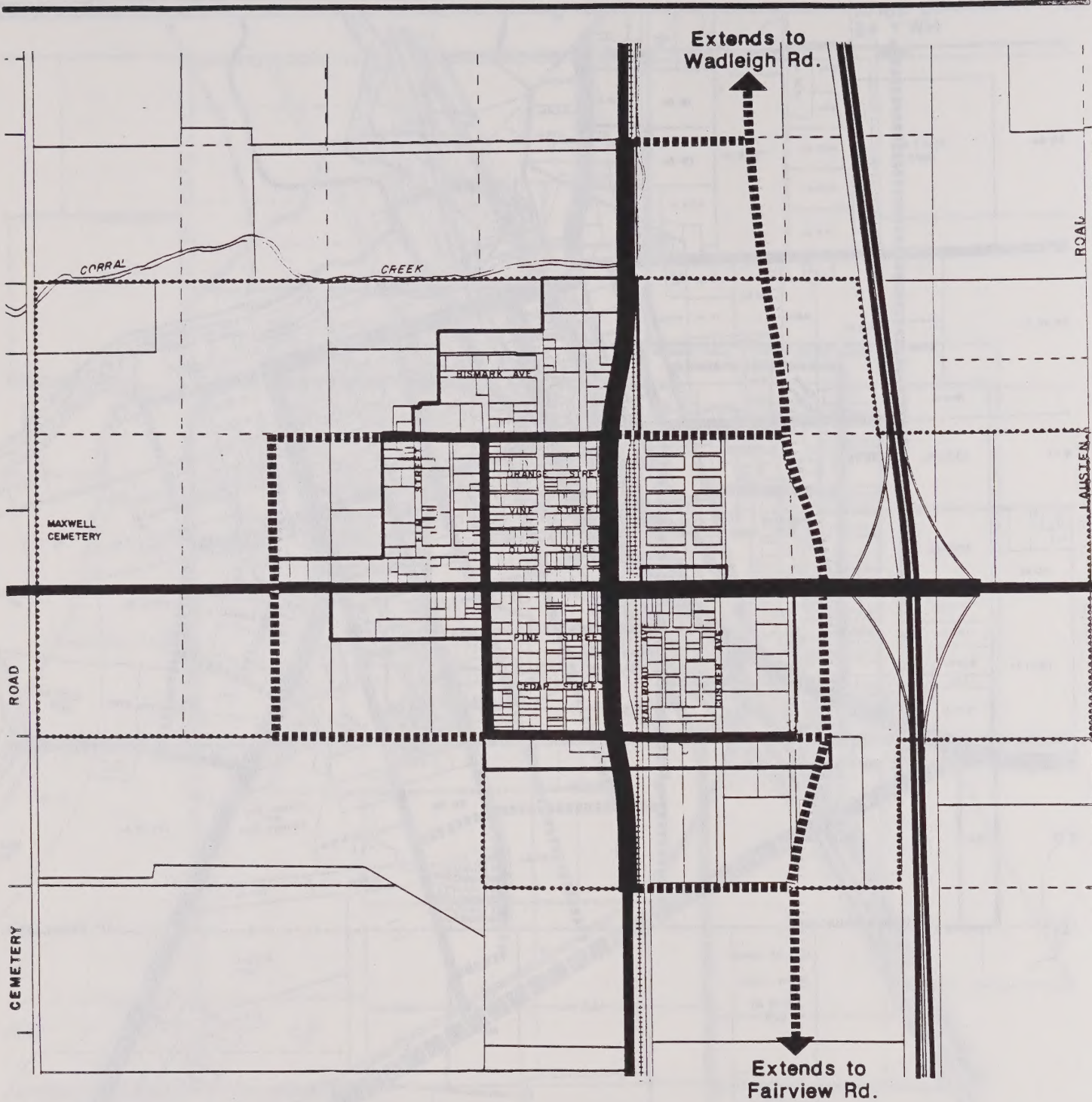
COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

SCALE: 1"=1100'



SCALE: 1"=2300'



LEGEND

	Existing	Proposed
Community Arterial		
Community Collector		
Interstate Highway		

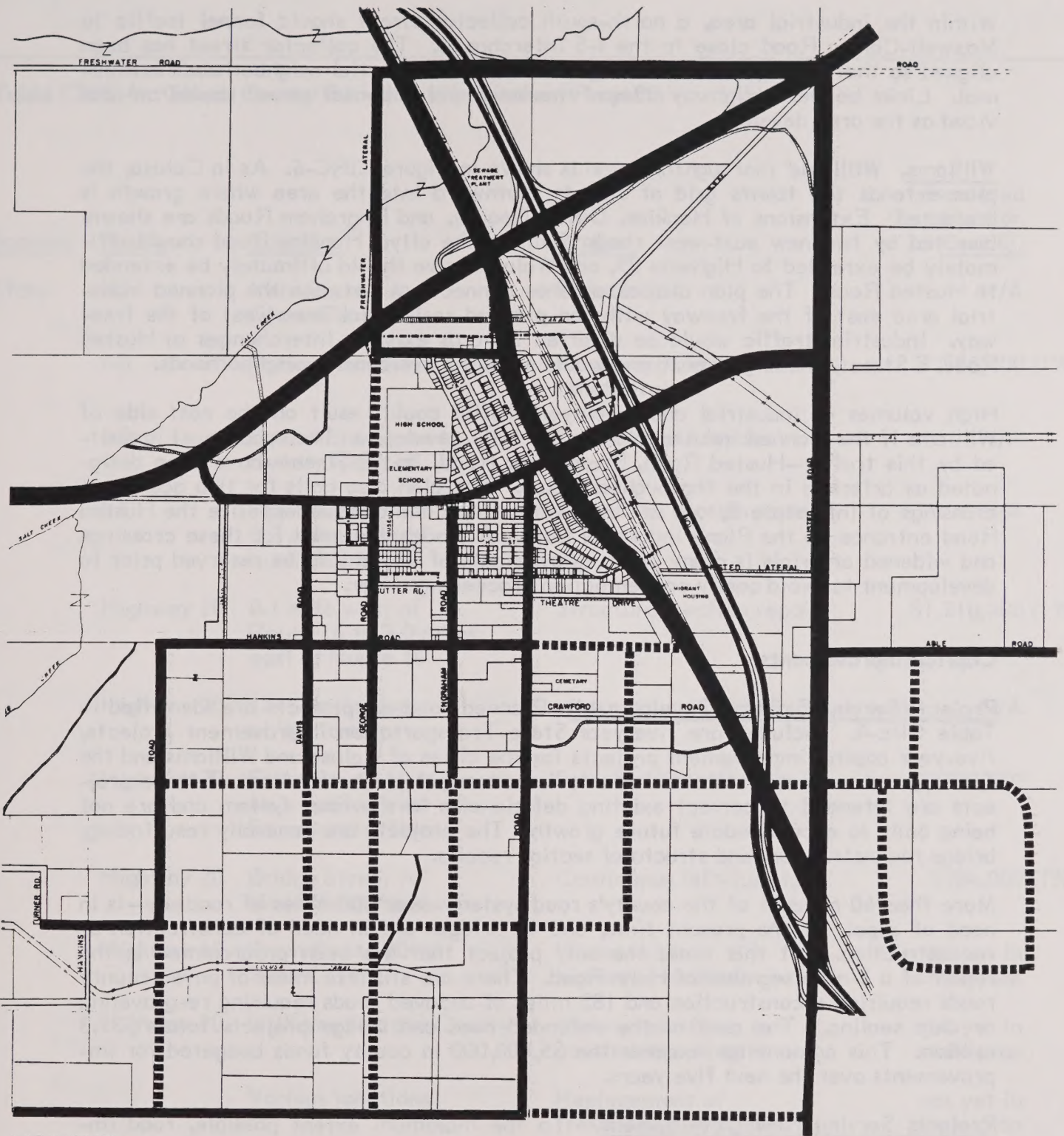
**Figure CIRC-5
THOROUGHFARE PLAN
MAXWELL**



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

SCALE: 1"=1300'



LEGEND

	Existing	Proposed
Community Arterial		
Community Collector		
Interstate Highway		

Figure CIRC-6
THOROUGHFARE PLAN
 WILLIAMS VICINITY



COLUSA COUNTY GENERAL PLAN
 Sedway Cooke Associates

SCALE: 1"=2600'

Within the industrial area, a north-south collector street should funnel traffic to Maxwell-Colusa Road close to the I-5 interchange. The collector street has been aligned so that its impact on existing and planned residential neighborhoods is minimal. Links between Highway 99 and the industrial collector street should be provided as the area develops.

Williams. Williams' thoroughfare plan is shown in Figure CIRC-6. As in Colusa, the plan extends the town's grid of streets southward into the area where growth is projected. Extensions of Hankins, Davis, George, and Engraham Roads are shown, bisected by two new east-west roads south of the city. Hankins Road should ultimately be extended to Highway 99, and Walnut Drive should ultimately be extended to Husted Road. The plan also establishes connections between the planned industrial area east of the freeway with the planned residential area west of the freeway. Industrial traffic would be diverted towards existing interchanges at Husted Road, E Street, and Highway 20 and would not enter residential neighborhoods.

High volumes of industrial and employee traffic could result on the east side of Williams if the planned industrial areas are fully developed. The roads most impacted by this traffic--Husted Road, Freshwater Road, and E Street--have been designated as arterials in the thoroughfare plan. The plan also calls for two additional crossings of Interstate 5, one at Freshwater Road and another opposite the Husted Road entrance to the Plank Industrial Park. Although the need for these crossings and widened arterials is many years away, rights of way should be reserved prior to development to avoid costly condemnation proceedings later.

Capital Improvements

Projects Serving Existing Development. Planned roadway projects are identified in Table CIRC-4. Included are five-year State Transportation Improvement projects, five-year capital improvement projects for the cities of Colusa and Williams and the County, and unfunded state and county improvement projects. Most of these projects are intended to correct existing deficiencies in the road system and are not being built to accommodate future growth. The projects are generally resurfacing, bridge reconstruction, and structural section repairs.

More than 40 percent of the county's road system--over 300 miles of roadway--is in need of repair at the present time, and 43 bridges are in need of construction or reconstruction. At this time, the only project that has been programmed is the repair of a 3-mile segment of Hahn Road. There are still 116 miles of paved county roads requiring reconstruction and 183 miles of unpaved roads requiring re-graveling or chip sealing. The cost of the unfunded road and bridge projects totals \$37.3 million. This amount far exceeds the \$5,000,000 in county funds budgeted for improvements over the next five years.

Projects Serving New Development. To the maximum extent possible, road improvements that serve new growth should be paid for by the development that generates the need for the new roadway. This can be done through the collection of a road impact fee which varies according to the magnitude of a development, through mandatory road improvement or dedication requirements tailored to specific projects, or through the creation of special assessment districts for road and utility construction.

Table CIRC-4: Colusa County Roadway Improvement Projects¹

<u>Sponsor</u>	<u>Route</u>	<u>Location</u>	<u>Project</u>	<u>Escalated Construction Cost (\$)</u>
State	I-5	Yolo County to Glenn County	Edge drains	N/A
	I-5	Various locations	Bridge approach, slab rehabilitation	\$25,000 (1987)
	I-5	Freshwater Road to County Road 60	Embankment repair	N/A
	I-5	Freshwater Road to 0.7 mile south of Lurline Road	Structural section repair	N/A
	Highway 20	0.1 mile west of Route 16 to 3.0 miles east of Route 16	Structural section repair	\$1,210,000 (1987)
	Highway 20	14-17 miles west of Williams	Widening and grade improvement	N/A
	Highway 20	From Route 45-N junction to 1.1 miles west of Sacramento River	Structural section repair	\$2,230,000
	Highway 20	Bridge Street to Moon Bend Road	Continuous left-turn lane	\$384,000 (1988)
	Highway 45	From Route 20 to Yolo County	Widen to state highway standards	not yet in state plan
	Highway 20	Williams to Lake County	Widen, resurface, and construct passing lane	not yet in state plan
		Various locations	Replacement of "restricted" bridges	not yet in state plan
	I-5	Arbuckle	Soundwalls	unfunded
	I-5	Route 20 to Lurline Road	Structural section repair	unfunded

¹ Source: Colusa County Local Transportation Commission. Colusa County Regional Transportation Plan. November, 1986. (That document may be consulted for further details on these projects).

<u>Sponsor</u>	<u>Route</u>	<u>Location</u>	<u>Project</u>	<u>Escalated Construction Cost (\$)</u>
	I-5	Freshwater Road,	Embankment repair	unfunded
	I-5	Maxwell-Colusa Road to 0.2 miles north of Lenahan Road	Embankment repair	unfunded
	Highway 20	0.8 miles west of Walnut Road to Salt Creek (8 miles)	Structural section repair	unfunded
	Highway 20	Husted Road to San Jose Road	Structural section repair	unfunded
	Highway 45	0.75 miles north of Lurline Road	Structural section repair	unfunded
	Highway 20	Abandoned SP rail ROW	Colusa bypass	unfunded
City of Colusa		Harris Street, Main Street, Commercial Alley	Road reconstruction	\$186,000
		Commercial Alley	Road resurfacing	\$76,000
City of Williams		"E" Street	Overlay	\$225,000
		"F" Street, "I" Street, 8th Street, 9th Street	Chip seal	\$216,000
		Miscellaneous		\$50,000
County	Hahn Road	I-5 to Cortina School Road	Reconstruction	N/A
	Misc.	Supervisory Dist. 1	Road reconstruction-- 48.2 miles	\$10,159,340 (unfunded)
			Bridge reconstruction	\$2,416,200 (unfunded)
			Road surfacing/resurfacing-- 40.4 miles	\$643,400 (unfunded)
		Supervisory Dist. 2	Road reconstruction-- 3.4 miles	\$708,000 (unfunded)
			Bridge reconstruction	\$50,000 (unfunded)
			Road surfacing/resurfacing-- 1.3 miles	\$22,200 (unfunded)

<u>Sponsor</u>	<u>Route</u>	<u>Location</u>	<u>Project</u>	<u>Escalated Construction Cost (\$)</u>
		Supervisory Dist. 3	Road reconstruction-- 24.8 miles	\$5,521,400 (unfunded)
			Bridge reconstruction	\$1,547,400 (unfunded)
			Road surfacing/resurfacing-- 63.3 miles	\$1,051,300 (unfunded)
		Supervisory Dist. 4	Road reconstruction-- 33.9 miles	\$6,946,700 (unfunded)
			Bridge reconstruction	\$1,524,300 (unfunded)
			Road surfacing/resurfacing-- 73.9 miles	\$1,243,700 (unfunded)
		Supervisory Dist. 5	Road reconstruction-- 5.7 miles	\$1,273,500 (unfunded)
			Bridge reconstruction	\$4,000,000 (unfunded)
			Road surfacing/resurfacing-- 5.5 miles	\$119,600 (unfunded)

N/A = not available

Some of the improvements that will be required by growth may not be attributable to one particular development but will result from the cumulative impact of several projects. There is presently no mechanism in Colusa County to collect funds for off-site improvements to major thoroughfares and bridges as allowed by the Subdivision Map Act. By ordinance, the county may require the payment of a fee to fund such improvements as a condition of project approval. Such an ordinance would require that a geographic zone of benefit be established in the area subject to the fee. The Colusa bypass could be partially funded through such a fee, although the bulk of the funds would still need to come from State or federal sources.

Road construction and new development in the County will increase runoff and alter natural drainage patterns. As this occurs, CalTrans intends to work with the County to develop: (1) an overall solution for upstream collection facilities; (2) increased drainage capacity along county and city roads; and (3) downstream outfall improvements.

Public Finance

Federal. The Federal Surface Transportation Act provides federal funds for a number of highway programs. The amount allocated to Colusa County is determined by formulas specific to each type of project. There are more than 20 categories of projects eligible for federal funding; the amount allocated to each category is determined by Congress and the federal administration each year. In Colusa County, the most critical categories are Federal-Aid Interstate, Federal-Aid Primary, and Federal-Aid Secondary (FAI, FAP, FAS) roadway projects, bridge replacement projects, and highway safety projects.

Revenue is generated from the 9 cent per gallon federal fuel tax, and from excise taxes on commercial vehicles, lubricants, and other transportation-related items. A small amount of road revenue is also generated by the Mendocino National Forest; 25 percent of all revenue generated by product sales in the forest is returned to the county for use on schools and roads. Federal funds for 1987-1991 total an average of \$700,000 a year.

State. Transportation revenues from the State are generated by a 9 cent a gallon fuel tax, which is supplemented by a portion of the State's 6 percent sales tax. Counties are permitted to increase the fuel tax if approved by local voters. About \$2,000,000 a year is projected to be allocated by the State to the county for county road improvements over the 1987-1991 period.

The combined federal, state, and local funds total about \$18.7 million over the next five years. This is still less than half the amount needed to cover current maintenance and reconstruction costs. State funds may increase in the future as statewide ballot measures for transportation improvements are proposed, but such increases are unlikely to meet the county's needs.

County. Colusa County's local road fund provided about \$385,000 for road maintenance in Fiscal Year 1986-87. Due to the reduction in the assessed valuation of the county's farmland, the road fund has actually declined since 1984. Despite higher maintenance costs, the annual road fund was \$65,000 less in FY '86-87 than it was in FY '84-85. There are indications that the gap between local funds and road maintenance costs are growing wider.

One possible solution to the shortage of funds might be to impose a local gasoline tax for road maintenance. An equally effective solution would be to lobby for a modified State formula for calculating transportation fund distribution. Because such formulas place more weight on the number of registered vehicles in the county than on the total road mileage, Colusa County continually receives a much smaller share of funds than its urban counterparts. In fact, Colusa County ranks second to last among California counties in State funds per roadway mile. Orange County received 40 times more State money for its county roads than Colusa, despite the fact that the counties have about the same number of roadway miles.

Road Standards

Standards for Local, Community Collector, and Community Arterial Streets are shown in Figure CIRC-7. The Community Arterial standards are to be applied to new roads or roads in undeveloped areas only. It would be impractical or prohibitively expensive to widen Tenth Street and Bridge Street in Colusa and Old Highway 99 in Arbuckle, Maxwell, and Williams to 80 foot pavement widths. These roads are called out as Arterials to recognize their function as "main streets" rather than to advocate their widening.

The standards prescribe a right-of-way (ROW) width of 100 feet for Community Arterials, with two moving lanes of traffic in each direction, curbside parking, and a continuous left turn lane. The only road in the county currently designed to these standards is Market Street in downtown Colusa. Roads to be developed to this standard in the future include the Colusa Bypass, and parts of Husted Road and Freshwater Road.

Three different options are shown for the design of Community Collector streets. Residential collectors are to be built to the same standards as local residential streets. They are to include one lane of moving traffic in each direction, sidewalks, a planting strip, and curbside parking, all within a ROW of 60 feet. New collectors in business or industrial parks are to be built within a ROW ranging from 68 to 80 feet. The roads would accommodate four moving lanes of traffic with no curbside parking. The 80' roads would include a landscaped median.

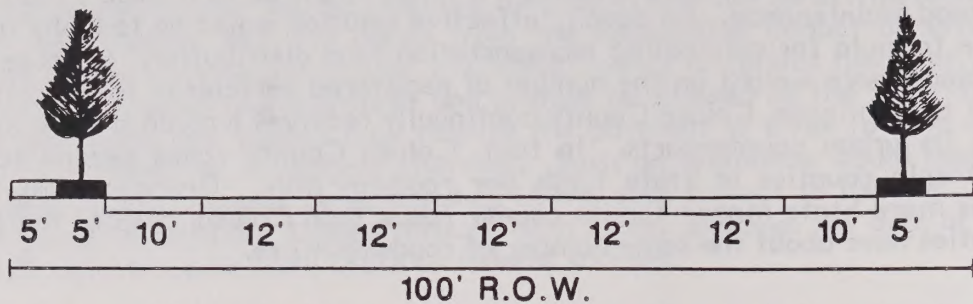
Local streets would include two lanes of curbside parking, two lanes of moving traffic, sidewalks, and a planting strip on either side of the pavement. Rights of way would be 60 feet.

OTHER CIRCULATION MODES

Public Transit

Future Needs. The growth of the county in general, and its elderly population in particular, will make additions to the transit system essential in the future. Even at this time, additional vehicles are needed, additional employees are needed, a permanent bus storage building is needed, designated bus stops are needed, and improved maintenance is needed. There is also local interest in extending bus service to Yuba City-Marysville. The need for expansion comes at a time when mass transit funds are declining and pressure to divert such funds for road maintenance is increasing.

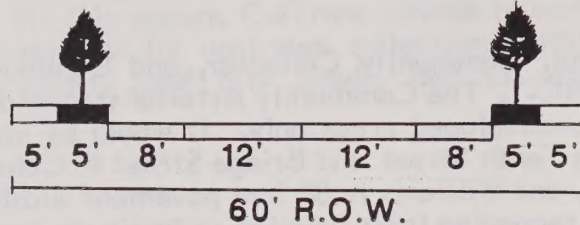
**COMMUNITY
ARTERIAL**



4 Lanes with curbside parking and continous left turn lane

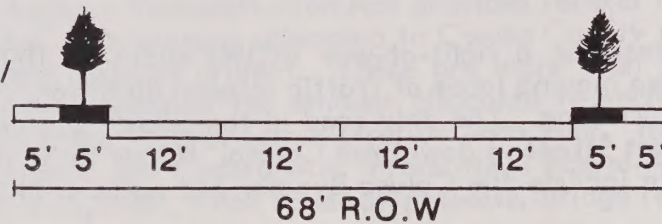
**COMMUNITY
COLLECTOR**

Residential



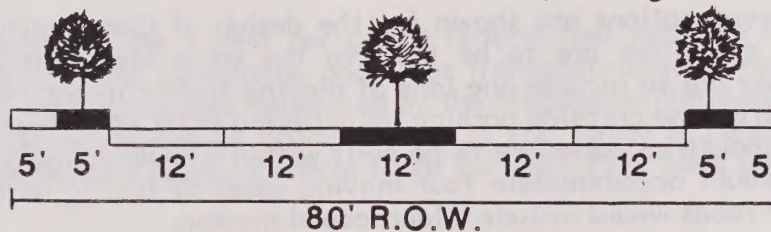
2 Lanes with curbside parking

Commercial/
Industrial



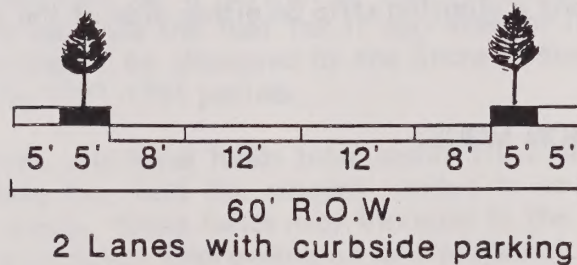
4 Lanes without curbside parking

or



4 Lanes with landscaped median and
no curbside parking

LOCAL STREET



2 Lanes with curbside parking

Figure CIRC-7
TYPICAL ROADWAY STANDARDS

COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

If ridership increases proportionally with population growth, about 56,000 passengers will use county bus and taxi services by the year 2010. However, ridership is likely to increase faster than population growth, as it has over the past 5 years. The very rapid ridership increases experienced in the early 1980s (averaging 36 percent a year) will slow down during the 1990s. However, even a 4 percent average annual increase (compared to an annual population increase of 2 percent) would yield a ridership of 90,000 passengers by the year 2010.

There are several factors which suggest that ridership will increase faster than population growth. First, the system is still relatively new and is still in a rapid ridership growth stage. As more people learn about the system, ridership will increase. Second, the demographics of the county are changing. In the future, a greater portion of the county's residents will be senior citizens and may be physically impaired or less inclined to drive. Third, the future land use plan encourages more growth within Colusa and Williams. As the county's population becomes more centralized in these cities, public transit becomes more effective and more viable. Fourth, job growth will be concentrated in a handful of industrial parks, increasing the possible use of transit to travel to and from work. Presently, the system's primary customers are traveling for health care, shopping, or personal services, or to visit friends or relatives. Fifth, rising fuel costs and the uncertain future of energy resources suggest higher transit usage in the future.

Due to the uncertainty of the factors listed above, accurate projections of transit usage beyond five years are impossible to make. The only certainty is that demand will increase and the need for a viable transit system will become more important in the future.

Future Transit System. The General Plan encourages land use patterns that will facilitate future transit operations. Existing bus routes should be maintained and possibly expanded to include service to Yuba City-Marysville. There, the possibility of interconnecting service with the Hub Area Transit Authority should be explored. Continued commercial bus service to Woodland, Sacramento, and the Bay Area should also be supported.

Given the level of population and employment growth projected, more frequent service may be required between the I-5 corridor communities in the future. At this time increased service is impossible due to financial constraints. Express service between Maxwell, Williams and Arbuckle may become viable as employment grows in these communities. Population growth in the rural areas will not be great enough to warrant any change to the current dial-a-ride system, and evening service does not appear viable at this time or in the near future.

Transit Financing. The most pressing issue that confronts Colusa County Transit is not the routing of transit lines, but the cost of maintaining the system. The system is heavily subsidized, with fares covering only 16 percent of capital and operating expenditures. About 14 percent of these costs are covered by federal funds and Nutrition Program funds, and another 14 percent by contract services (taxis). The remaining 56 percent of the system's expenditures is covered by local subsidies through the County Transportation Fund. The heavy reliance on the Transportation Fund has led to the suggestion that service be reduced and the funds be diverted to road maintenance, or that fares be increased to cover a greater portion of the cost.

The Transit system presently consumes about 75 percent of the Local Transportation Fund. This Fund is derived from the statewide sales tax and varies with the amount

of taxable sales that occur in the county each year. The transit system also receives funds through the State Transit Assistance Fund, but this fund has had an uncertain revenue stream in the past. Federal funds covering both operations and capital are available through the amended UMTA. UMTA also provides subsidies to private nonprofit agencies who provide transportation assistance to the elderly and handicapped, and funds transit studies and plans.

The operating cost per rider has declined as ridership has increased, and is likely to decline in the future as well. The 1986 regional Transit Plan projected that farebox revenues would cover 20 percent of operating costs by 1990-1991. Even so, alternatives to funding the system's operation should be explored. Among the possibilities are (1) fare increases, possibly only for non-elderly and disabled persons; and (2) more restrictive dial-a-ride policies to ensure more efficient service.

There are \$114,000 in capital expenditures planned over the next five years. These costs should be covered by UMTA and will be used for three new vehicles and miscellaneous equipment.

Railroad

The extensive amount of industry planned in the I-5 corridor during the next 20 to 25 years will result in an increased demand for rail freight service. Since the railroad right-of-way is fixed and not likely to be expanded, it is important that lands now served by rail are reserved for rail-dependent industry, and that expansion areas for these industries are provided.

No specific improvements to the railroad system are proposed. Policies in this element encourage the protection of public safety at railroad crossings and the siting of development to reduce at-grade crossings. As the number of vehicles and trains increases, new gates and warning lights may be required at unprotected crossings.

Aviation

The land use plans for Colusa and Williams encourage development patterns that allow continued safe operation of the airport and landing strips. Noise and safety factors have both been taken into consideration in the selection of future land uses near the County airport. Although commercial airline service is not likely to be provided to Colusa in the near future, the eventual possibility should not be ruled out. A 900-foot extension of the runway has been proposed, and a navigation system and beacon replacement project appear in the airport's capital improvement plan. The runway extension should be to the southeast, away from the urbanized area. This will result in fewer development constraints within the Colusa Industrial Properties project and will minimize increases in noise and safety hazards to existing residential areas within Colusa.

Given the amount of industrial development planned in the Williams vicinity, upgrading of the airstrip on Husted Road may be required in the future. At the same time, increased housing development south and west of town may eventually encroach on the airstrip on Williams' west side. At some point in the future, that airstrip may need to be relocated, or its services may need to be consolidated at the Husted Road airstrip.

Colusa County Airport is eligible for Federal Airport Improvement Program grants and State Division of Aeronautics Grants for capital improvements. Both funds are primarily supported by taxes on aviation fuel. Colusa County is relying on State funds to cover 90 percent of the County Airport improvement costs.

Waterways

No navigational improvements to the Sacramento River are assumed in the General Plan. Increased commercial shipping and barge operations on the river do not appear likely at this time.

Bicycle, Pedestrian, and Off-Road Vehicle Trails

Bicycles. The future land use plan promotes bicycle travel by containing future growth within existing urban areas. Higher densities and compact development patterns foster the use of bicycles for travel to school, work, shopping, and for leisure. As bicycle use increases, the need for striped lanes separate from motor vehicle lanes will become more apparent. At this time, neither the county nor the cities of Williams and Colusa have a "bikeways" plan. The city of Colusa has a series of signing and striping projects planned to designate bikeways within the city limits. Within each community, new residential collector streets should be sufficiently wide to accommodate bicycle traffic.

The county presently lacks the financial resources to build bikeways and many residents are opposed to the concept of a continuous bike trail along the Sacramento River. A majority of residents feel that road and bridge reconstruction needs are simply too immense to justify local expenditure on bikeways. At this time, State and federal recreation funds offer the best prospects for financing a riverfront bike trail.

Pedestrians. Pedestrian activity will occur both within the county's cities and towns, and in publicly-owned areas such as the Mendocino National Forest. The former type of travel should be accommodated by setting requirements and standards for sidewalks in new developments. The latter type of travel is associated with recreational hiking and backpacking. A number of trailheads cross the Mendocino National Forest, particularly in the Snow Mountain Wilderness and Letts Lake areas. These trails should be expanded and maintained in accordance with the National Forest Management Plan. Total trail mileage in the forest is to increase from 359 to 380 by the year 2012. Only a small portion of this mileage is within Colusa County.

Off-Road Vehicles (ORV). ORV use is popular in the Mendocino National Forest and is projected to become even more popular during the next three decades. ORV Trail mileage in the Forest is expected to grow from 141 miles to 152 miles by the year 2012, but only a small portion of this mileage is in Colusa County. Management of ORV use should be in accordance with the Mendocino Forest Management Plan.

Pipeline and Transmission Lines

As mentioned earlier, the Geothermal Public Power Line will harness the energy resources of the Geysers in Sonoma County for users in Sacramento, Modesto, Santa Clara, and other parts of Northern California. Policies in the Circulation Element recommend that the alignment for this power line be sited in such a way that visual

and agricultural impacts are minimized. Wherever possible, new power lines should be located within existing power line rights-of-way.

A second power project involves the upgrading of the existing Pacific Northwest-Pacific Southwest Inter-Tie on the Valley floor. The project would raise existing transmission towers and would establish a 500 kV line between California and the power source at the Columbia River. The line will permit the transfer of 1,600 megawatts of additional power, and is intended to reduce energy costs in California.

SCENIC HIGHWAYS

THE VALUE OF SCENIC HIGHWAYS

The variety and beauty of the Colusa County landscape is valued by residents and visitors alike. Within a relatively short distance, one can travel across vast plains, through stark, wind-eroded hills, into rugged pine forests. Many of the county's roads offer a visual experience that is unique to Colusa County. Along River and Gridley Roads, the jagged form of the Sutter Buttes provide an dramatic backdrop. Further west, gravel roads wind through deep ravines and traverse expansive upland valleys. From all points on the Sacramento Valley floor, Snow and St. John Mountains loom on the western horizon while the distant peaks of the Sierra Nevada rise to the east. Despite its lack of topography, the valley itself is visually significant; its expanse of rice paddies and field crops uninterrupted by urbanization impresses the passing motorist with the importance of agriculture to this region.

The Colusa County landscape is most often experienced through the window of a car. As population and traffic increase, the highways which traverse this landscape will be more vulnerable to degradation. Without regulation, litter could become a serious problem, roadside signage could proliferate, and development could mar the scenery. Since much of Colusa County's landscape is flat and open, it is particularly vulnerable to visual change. A single industrial building can alter the horizon for many miles across the valley. Although a dramatic increase in development along the county's scenic highways is not anticipated, the general plan should provide for their continued protection and enhancement for the duration of the planning period.

Protecting the scenic quality of the highway system is important for several reasons. First, such highways are a reflection of the county's rural lifestyle and make an important contribution to its quality of life. Second, an attractive highway system is good for tourism and economic development. Third, scenic highways create a more aesthetically pleasing environment and contribute to the personal satisfaction of county residents.

All of Colusa County's roadways are "scenic" to some extent. The purpose of addressing scenic highways in the Circulation Element is to identify which of these roadways have particular scenic significance, which are most heavily traveled, and which are most threatened by changes to the landscape. The plan includes policy statements which ensure that the visual quality of these roads is preserved and enhanced in the future. Land in scenic highway corridors is to be used in a way that is harmonious with the corridor's natural character.

PROCEDURE FOR SCENIC HIGHWAY DESIGNATION

The California Scenic Highway Program was established in 1963 to preserve corridors of outstanding scenic quality. Selection of scenic routes throughout the state has been based on the concept that such routes should:

- o traverse areas of high visual quality or significant landscape features;
- o be interconnected and part of a "network";
- o be coordinated with bicycle routes;
- o be predominantly used for recreation; and
- o connect major recreational, historical, or cultural features.

In Colusa County, only State Highway 16 and Highway 20 from the Lake County line Highway 16 are "eligible" scenic highways. The county may apply for designation of any county roads and some state roads as scenic highways through a three step process. First, the Board of Supervisors must ask Caltrans to do a Scenic Highway Report for the highway corridor. Second, the County must prepare a Corridor Specific Plan which contains guidelines for land use, building placement and design, sign control, and earth moving along the highway. Third, the Corridor study must be adopted by the State Scenic Highway Committee.

In lieu of this process, the county can enact local design guidelines or zoning controls which apply to specific scenic highway corridors. Since Colusa County has limited staff resources to prepare corridor plans, this approach seems most appropriate at this time. Policies stated earlier in this document provide the initial direction for protecting these corridors.

The major objective of these policies is to avoid visually obtrusive development in and commercialization of scenic highway corridors. This can be accomplished through the following measures:

- o setback, landscape, and building material guidelines;
- o requiring certain construction practices during road resurfacing and widening;
- o restricting off-site advertising;
- o undergrounding utilities where feasible; and
- o restricting land use to non-urban categories.

In no case should these measures be used to create a hardship for agriculture in the county. Although natural resource management activities may have temporary adverse impacts on scenic vistas, such activities contribute to the long-term beauty of the landscape. For instance, rice burning and timber harvesting have short-term effects on visual quality. These activities and others like them are necessary and should in no way be inhibited by scenic highway programs.

RECOMMENDATIONS FOR "SCENIC" DESIGNATION

In addition to the segments of Highways 16 and 20 that have already been granted "eligible" status, the following highways should be considered for local scenic highway designation:

- o Highway 20 between Highway 16 and Williams

- o The Maxwell-Stonyford Road (Maxwell-Sites Road, Sites-Lodoga Road, Lodoga-Stonyford Road)
- o Bear Valley Road/Leesville-Lodoga Road
- o Highway 45 from Yolo County to Glenn County
- o River Road/Gridley Road.

The location of these roads and the features that make them visually significant are noted in Figure CIRC-8.

CIRCULATION POLICIES

Based on the above analysis of existing conditions and an evaluation of the future land use plan, the following policies have been applied in the development of the county's circulation plan. Many of the policies have been taken directly from the Regional Transportation Plan, since the plan area is the same in both instances.

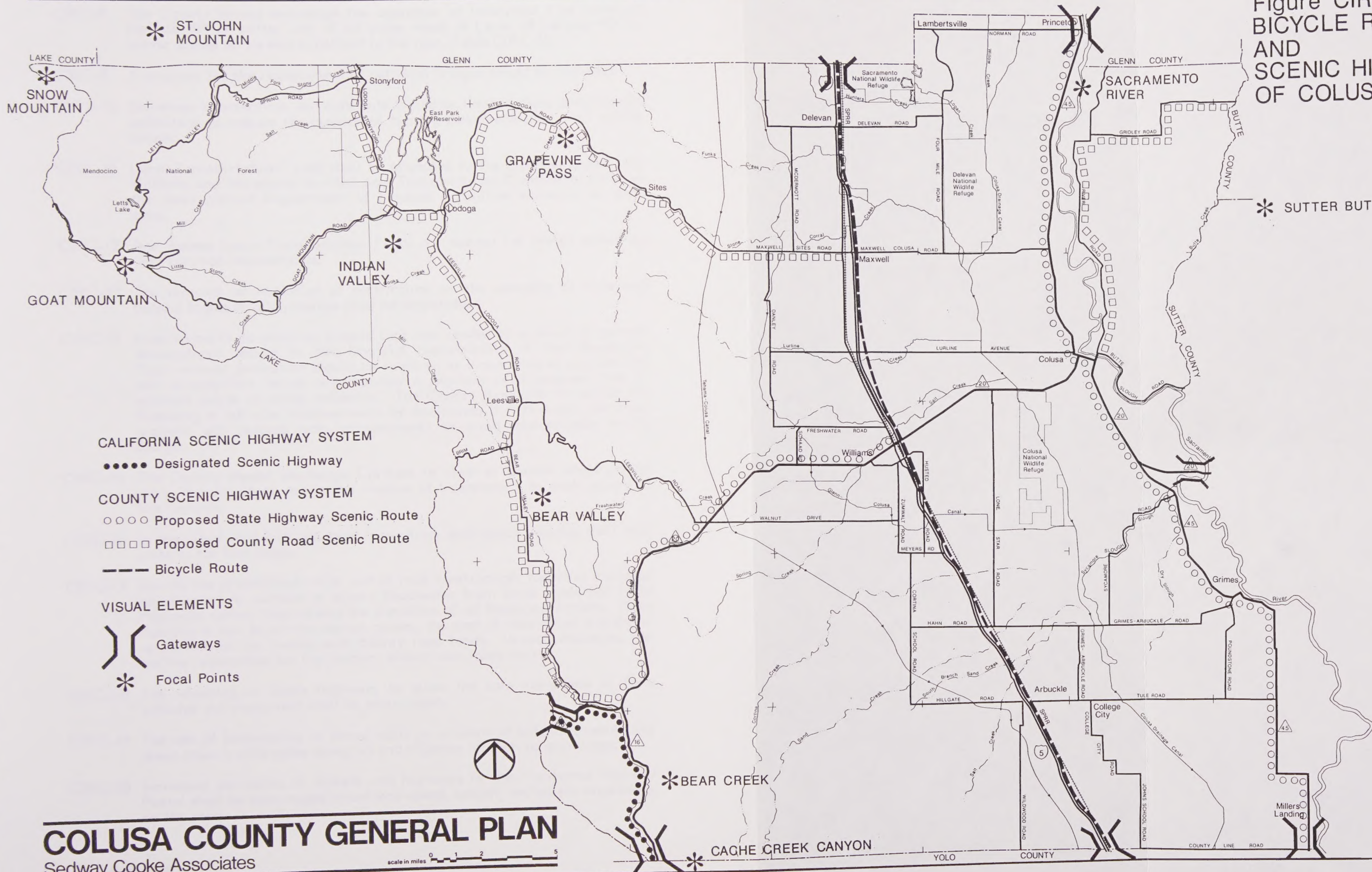
General

- CIRC-1 Colusa County should pursue a circulation system that is consistent with the land use plan contained in this document. The following hierarchy of streets and highways should be used to describe this system: Principal Arterials, Minor Arterials, Major Collectors, Minor Collectors, and Local Streets. These road types are shown in Figure CIRC-1 and are defined in the first part of this chapter. Road standards applicable to each of these road types should be used by the Public Works Department in the planning of future road improvements.
- CIRC-2 Existing transportation facilities should be utilized fully (Level of Service "C", as defined in Table CIRC-3) before making major new capital improvements.
- CIRC-3 Transportation facilities should be used to support the growth of the region and should not be deliberately used to constrain growth or cause social changes.
- CIRC-4 Local streets, County roads, and State highways should remain the primary elements of the circulation system.
- CIRC-5 Circulation facilities should be sited and designed in such a way that damage to the county's scenic and environmental resources is avoided. Roads should be planned and designed to minimize disruption of soils, topography, vegetative cover, and wildlife habitat.

Streets and Highways

- CIRC-6 The County shall pursue all available State, federal, and private funding for the development of its transportation system.
- CIRC-7 The County shall support and encourage legislation that will ensure that Colusa County receives a larger share of State and federal road maintenance funds.

Figure CIRC-8
BICYCLE ROUTES
AND
SCENIC HIGHWAYS
OF COLUSA COUNTY



- CIRC-8 The County should encourage the operation of Interstate 5 at Level of Service "B" or better and of all other roads at Level of Service "C" or better (Level of Service is defined in the text, Table CIRC-3).
- CIRC-9 A program for the replacement of deficient bridges should be initiated.
- CIRC-10 Driveway intersections and curb cuts should be limited along arterials and collectors to reduce the number of turning movements and limit traffic delays.
- CIRC-11 Local Transportation Funds shall be allocated to the cities of Colusa and Williams and the county by the Local Transportation Commission based on the most current Department of Finance population estimate for each area.
- CIRC-12 Any excess Local Transportation Funds not needed for transit should be used for road maintenance.
- CIRC-13 The removal or reduction of restrictions on the spending of state and federal transportation monies shall be supported.
- CIRC-14 Improvements to existing streets that are needed as a result of private development should be the financial responsibility of that developer. Right-of-way dedication should be required as a condition of approval for any development which encompasses a segment of a proposed new or widened major or minor collector. The County shall also encourage the financing of off-site improvements by developers if it is shown that their projects will require such improvements to avoid unacceptable traffic delays.
- CIRC-15 The County should encourage Caltrans to clear or prevent weed growth along the shoulders and in the median of Interstate 5 to avoid potential fire hazards.
- CIRC-16 In the event that fuel rationing is required, emergency vehicles shall have priority for fuel usage.
- CIRC-17 Due to the prohibitively high cost of road construction, facilities should be constructed to remove or divert floodwater from local roads and State Highways rather than raising the elevation of all flood-prone roads. When flooding is due to private sector causes, the cost of road repair and clean-up should not be funded with county road funds. In such instances, the parties responsible for the problem should bear these costs.
- CIRC-18 The widening of State highways to allow the safe movement of farm vehicles and equipment shall be encouraged.
- CIRC-19 The use of landscaping or sound walls as a means of buffering residential areas from traffic noise along I-5 and Highway 20 shall be encouraged.
- CIRC-20 Increased patrolling of streets and highways by the California Highway Patrol shall be encouraged to enforce speed, weight, and safety regulations on the road.

- CIRC-21 Twenty-five percent of the timber funds generated from forest sales should continue to be used for streets and roads.
- CIRC-22 Transportation improvements which permit increased travel by recreational vehicles should be encouraged, provided that such improvements do not have a negative environmental impact.

Public Transit

- CIRC-23 Colusa County shall apply for Urban Mass Transit Act (UMTA) Section 18 formula and discretionary funds.
- CIRC-24 State Transit Assistance funds shall continue to be used for transit only.
- CIRC-25 The continuation of privately operated inter-city bus service shall be encouraged.
- CIRC-26 The first priority of the local bus system should be to provide transportation for the elderly, handicapped, economically disadvantaged, and others with unmet transportation needs. Lesser priority should be given to diverting automobile trips to transit.
- CIRC-27 Applications for federal subsidies for private nonprofit companies providing transit in rural areas should be supported. Further opportunities for private operation of the transit system should be explored.
- CIRC-28 Transit connections between Colusa County and Yuba City-Marysville should be encouraged.

Railroad

- CIRC-29 The restoration of passenger rail service along the Southern Pacific tracks parallel to Interstate 5 should be encouraged.
- CIRC-30 The continuation of freight service along the main and branch lines of the Southern Pacific railroad shall be supported. The continuation of rail service to businesses and industry along the rail line shall also be encouraged.
- CIRC-31 The County and Southern Pacific should work jointly to encourage the maintenance of facilities and road crossings.
- CIRC-32 Railroad crossings of State and county roads shall be marked, signalized, and gated where warranted by traffic volumes. The land use pattern should avoid extensive grade-level road crossings of the railroad.

Air

- CIRC-33 The expansion and improvement of existing airport facilities shall be promoted. When there is a reasonable chance of approval, the County shall apply for available State and Federal aeronautics funds.
- CIRC-34 Landing and rental fees to help maintain and improve airports in the region shall be increased or established.
- CIRC-35 Formation of an Airport Land Use Commission to monitor land use decisions around the Colusa Airport, ensure the continued sustenance of the airport, and protect public safety should be promoted.
- CIRC-36 Formation of an Airport Noise Overlay Zone with noise insulation standards for land uses occurring in the zone should be encouraged.

Pedestrians and Bicycles

- CIRC-37 Residential development at urban densities (3.5 units per gross acre or greater) should include provisions for bicycle lanes or pedestrian trails. Where possible, these bicycle and pedestrian trails should be integrated with trails serving the rest of the community.
- CIRC-38 Sidewalks should be required within all new development at urban densities if such development is contiguous or within the communities of Arbuckle, Maxwell, Grimes, or Princeton. This requirement also applies to the unincorporated portions of Colusa and Williams, and its adoption by each of these two cities is encouraged.

Pipelines and Transmission Lines

- CIRC-39 Any proposed pipeline or transmission line within the county shall be aligned so that interference with agriculture is minimized.

Waterways

- CIRC-40 Navigational improvements to the Sacramento River should be encouraged to reduce seepage, encourage commercial fishing and tourism, and reduce the danger of boating accidents.

Scenic Highways

- CIRC-41 The natural scenery which exists along locally-recognized scenic highways (see Figure CIRC-8) should be protected from activities which would permanently diminish their aesthetic beauty. Urban development should be discouraged in locally-recognized scenic highway corridors.

- CIRC-42 New structures in scenic highway corridors should be set back as far as possible from the designated roadway and should be in low visibility areas. Structures should be built with natural materials that help them blend into the landscape.
- CIRC-43 A greater number of areas should be provided along scenic highways for vistas, rest stops, or picnicking.
- CIRC-44 Trees along scenic roadways should be preserved, unless their removal is part of a program to enhance vistas. Where tree removal is required for road widening, a roadside revegetation program should also be required.
- CIRC-45 Non-agricultural roadside commercial and industrial activities should be discouraged in scenic highway corridors.
- CIRC-46 Off-site advertising and billboards should not be permitted on portions of scenic highways lying outside of Community Planning Areas.
- CIRC-47 Where financially feasible, utilities in scenic highway corridors should be placed underground. Where this is impossible, utilities should be sited in a way that minimizes their intrusiveness.
- CIRC-48 New roads in hillside areas should be constructed along the lines of the landscape and in a manner which minimizes visual impact from surrounding areas.
- CIRC-49 Any earthmoving or road reconstruction project should be followed by seeding and vegetation which restores a natural appearance.
- CIRC-50 No scenic highway policy shall be used to impose a hardship on agriculture. Agricultural activities which have a temporary adverse visual impact should be recognized as necessary and as contributors to the long-term beauty of the landscape.

Implementation

- CIRC-51 County transportation planning decisions shall be coordinated with all affected public and private agencies.
- CIRC-52 The public shall be informed and invited to attend meetings regarding the future of the circulation system.
- CIRC-53 An inventory of discretionary funds and grant sources that might be used for transportation improvements should be maintained by the county.
- CIRC-54 The County should carry out studies of alternatives to (1) financing road maintenance and construction and (2) reducing the impacts of large trucks on the local road system.
- CIRC-55 Permitted roadside commercial uses should have an approved public access plan. The plan should address public safety and ease of access to the site.



Community Services Element

COMMUNITY SERVICES ELEMENT

"Certainty is the greatest stimulus that can possibly be given to industry. This is more especially the case in matters concerned with agriculture."

Colusa Sun Herald

December 10, 1864

ORGANIZATION OF THE COMMUNITY SERVICES ELEMENT

Although a "Community Services Element" is not explicitly required by state law, the subjects addressed here are critical to the county's future growth and development. Every public service provided in the county, whether water, sewer, drainage, solid waste, schools, or libraries, has limitations. These limitations must be documented so that development decisions can be made in a way that is both fiscally responsible and environmentally sound. This Element describes how public services may enhance or constrain the county's development. Its recommended policies go hand-in-hand with the policies of the Land Use Element; their intent is to channel development into areas where community services can either accommodate growth or be expanded most efficiently.

This Element also provides the first comprehensive inventory of the public services that are provided within Colusa County. A profile of all water systems, wastewater treatment systems, drainage and flood control measures, solid waste disposal practices, law enforcement services, fire protection services, emergency medical services, schools, libraries, and health care services is presented. Following a description of the existing services, the Element describes where expansion will be needed between now and the year 2010. Policies are presented for each service area.

SERVICE PROFILES

WATER

Sources

Water supplied to Colusa County comes from two sources, groundwater and surface water. All domestic systems in the county are supplied with groundwater, while most irrigation systems are supplied with surface water from the Tehama-Colusa or Glenn-Colusa Canals, the Colusa Drain, or the Sacramento River. The Sacramento River groundwater basin underlies the eastern part of the valley floor. Community systems in Arbuckle, Colusa, Grimes, Maxwell, Princeton, Stonyford, and Williams tap into the basin with wells generally 100 to 500 feet deep.

From the toe of the foothills west, the availability of groundwater becomes much more questionable. Boundaries of the basin are not well defined and drilling a domestic well may be a "hit or miss" proposition. When groundwater is found in the foothills, the subsurface reservoirs are small and may dry up during the summer

months. Streams in this area are intermittent and unreliable as domestic water sources. Due to the scarcity of water in the upland areas, the land use plan recommends very limited future development there.

In contrast to groundwater, surface waters are subject to a complex state legal system establishing the rights of individuals and other entities to their flows. In fact, rights to the major surface water source in Colusa County--East Park Reservoir--are allocated to Orland Water Users for irrigation of farmland in Glenn County. Surface water in the Glenn-Colusa and Tehama-Colusa Canals are diverted from the Sacramento River further north in the valley. Water rights have also been allocated to a number of small state and county water districts operating within Colusa County.

Domestic Distribution Systems

In addition to the six community water systems mentioned above, there are 54 water systems registered with the County Environmental Health Department. Most of these systems belong to roadside commercial establishments, hunting clubs or lodges, trailer courts, agricultural industries, labor camps, or isolated residential areas. Two of the larger residential systems serve Stonyford and Century Ranch. These systems have limited expansion potential and are a major limitation to growth in these areas. A description of the community water systems is provided below. The location of domestic systems is shown in Figure COMM-1.

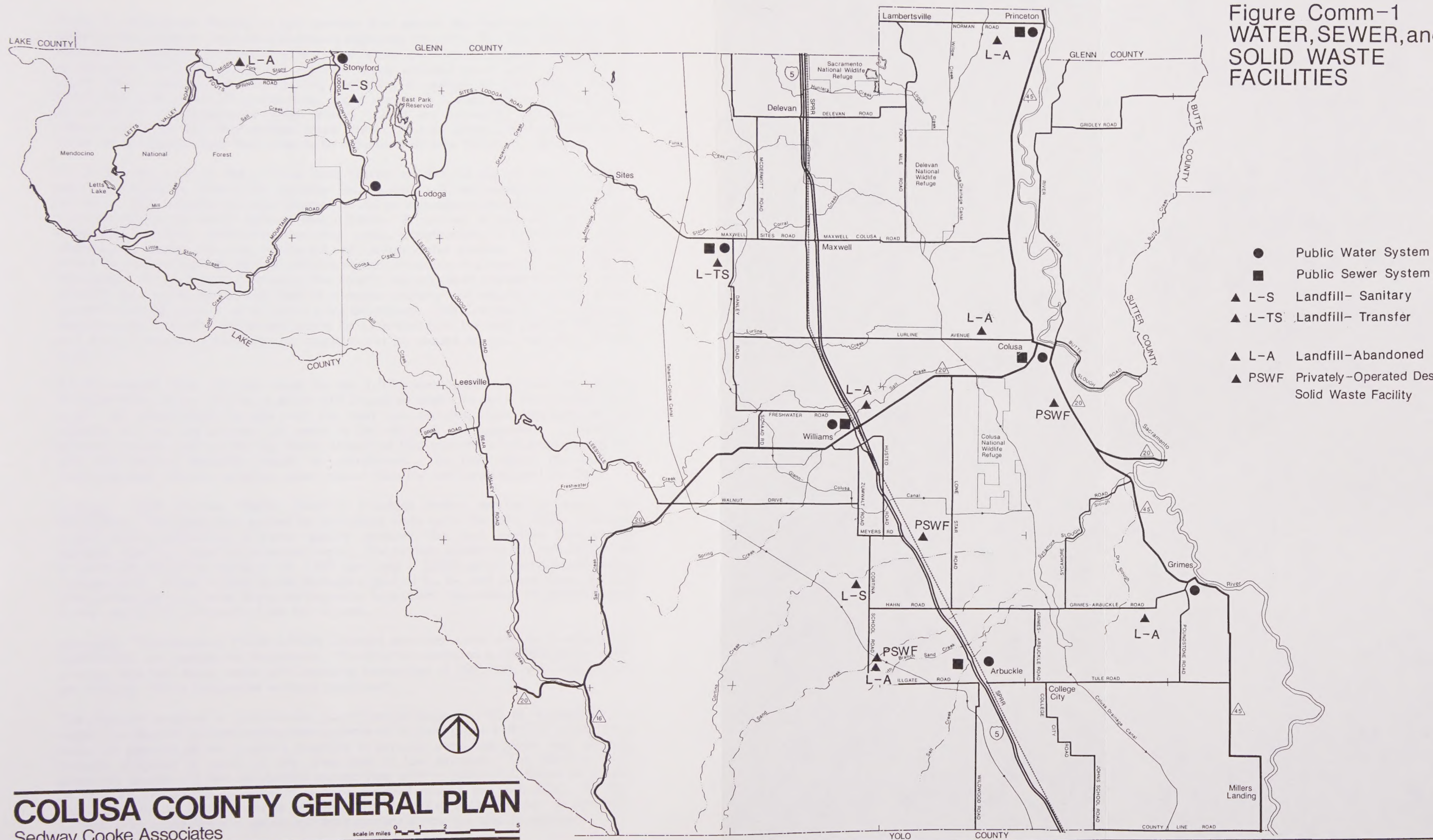
Arbuckle. The Arbuckle Public Utility District provides domestic water to approximately 740 customers. Water is pumped from three wells and pressure tanks of 7,000, 5,000, and 2,000 gallon capacity. Total pumping capacity is 2 million gallons per day (gpd), with consumption averaging 610,000 gpd. During July, the peak use month, consumption may be as high as 1.2 million gpd. Water demand is low enough that only one well at a time is used most of the year; water is drawn from alternating wells throughout the year. Although the wells are equipped for chlorination, the water is clean enough to deliver without treatment. Water quality is checked weekly as specified by state regulations.

The District was formed in 1939 when several smaller districts serving Arbuckle were consolidated. Most of the original cast iron pipes were replaced with asbestos-cement (AC) pipes during the 1950s. Today, the distribution system consists of a series of 6", 8", and 10" pipes; there are no major problems with the system and no extensions are planned. New customers pay connection fees equivalent to the cost of extending the water line to their site.

Water supply is not an immediate constraint to Arbuckle's development. If the town grows as expected, additional wells will be required by the year 2010.

Colusa. The City of Colusa provides domestic water from four automatic wells and from a diesel well which is used during emergencies only. Water is chlorinated for reduction of taste and odor. Water is stored in two elevated storage tanks with a total capacity of 250,000 gallons. The city's wells have a total capacity of 6.60 million gpd, but the pumps at the city's wells are not capable of drawing up that volume of water. Pumping capacity at the wells varies from 500 gallons per minute (gpm) to 1200 gpm. Average daily usage in Colusa is 1.46 million gpd, with about 2.77 million gpd consumed during July and 720,000 gpd consumed during February. During the summer of 1987, all four automatic wells ran continuously, raising concerns about the system's ability to handle new connections.

Figure Comm-1
WATER, SEWER, and
SOLID WASTE
FACILITIES



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

scale in miles 0 1 2 5



Water is distributed through a grid system that serves the incorporated area and some of the close-in rural neighborhoods adjoining the city. For the most part, the distribution system is adequate, but line sizes and water pressure need to be upgraded in the Goad's Addition. Private water systems serve some of the larger water users outside the city limits, including a system in the Walnut Ranch subdivision with about 75 connections, and a system in Colusa Industrial Properties. Some of the unincorporated areas around Colusa are served by individual wells, despite densities that may exceed those within the city limits. Well monitoring in these areas suggests that they need to be incorporated into the city's system.

Of 30 private wells in the Lurline Area tested in 1987, 21 did not meet coliform bacteria standards. Even after chlorination, 13 wells still had unacceptable levels of bacteria. The problem has been blamed on old or improperly designed wells, most in close proximity to septic system leach fields. A number of solutions have been explored, including redesigning existing wells, constructing a community water system, and linking the area to the city of Colusa water system. The latter option would be most effective, but will require the construction of a new city well to serve this area. As an interim measure, the county has proposed standards which would prohibit new wells within 100 feet of a septic system, and require a public water system when 50 percent of all parcels are developed. The Community Plan Element recommends that city water and sewer be extended into the east part of this area and that a one-acre minimum lot requirement be placed on the west part of this area.

At the present time, the city needs to add a fifth well to serve development in the Wescott Road area. Ideally, a sixth well should be added to serve the Lurline Road area. As development occurs over the next two decades, older segments of the existing distribution system will need to be replaced and upgraded. Ultimately, private systems such as Walnut Ranch should be tied into the city's system, and the grid distribution network should be completed. To help cover the cost of improvements, the city enacted water impact fees for new development in 1987.

Grimes. The Grimes Utility District provides water service to about 100 customers. The town was served by individual wells until the late 1960s. The new water system alleviated a water quality problem that had resulted from septic systems sited too close to individual wells. The system presently has two wells with a combined pumping capacity of 1700 gpm and a 5,000 gallon pressurized water storage tank. Water is distributed through a grid of 4-, 6-, and 8-inch lines. At this time, there appears to be adequate capacity to support the amount of growth shown in the year 2010 Community Plan for Grimes.

Maxwell. The Maxwell Public Utility District provides water service to about 325 commercial and residential customers. The District operates a 100,000 gallon water storage tank and three wells with pumping capacities of 500, 800, and 1100 gallons per minute. Water is supplied without treatment.

The District received a combination grant/loan package in 1982 to reconstruct the water distribution system and replace deteriorating steel pipes with PVC pipes. Only about 35 percent of the system's capacity is actually used, and water may actually become stagnant in some of the lines due to low demand. The District could presently handle 175 new residential connections with no difficulty. Based on growth projections for Maxwell, capacity will be reached around the year 2000. At that time, addition of a new well or expansion of pumping capacity may be required. Extension of water lines to serve new development areas will also be required.

Princeton. The Princeton Utility District provides water service to about 125 residential and commercial customers. The District operates a primary well with a pumping capacity of 410 gpm and a secondary well with a capacity of 110 gpm. Each well has an 1,800 gallon storage tank. The District supplies about 33,100 gpd, with no treatment required. The distribution system was reconstructed in 1984 and consists of asbestos-cement pipe. Neither the water supply or distribution systems pose a constraint to development.

Stonyford. The Stonyford Water District supplies water from two wells which pump from a large gravel strata. The system includes a 1,000 gallon storage tanks and has no back-up storage tanks. Nearby, the Century Ranch Water system draws water from infiltration galleries on Little Stony Creek. Water in both systems must be chlorinated before distribution.

Williams. The city of Williams operates two main wells and one stand-by well; yields range from 500 gpm to 1,400 gpm each. The groundwater basin has been reliable in the past, but the possibility of an overdraft should not be disregarded. The quality of the groundwater is generally good, although groundwater close to Salt Creek may be affected by drainage from saline springs in the upper part of the watershed.

Water is stored in a 100,000 gallon elevated storage tank and is distributed through cast iron or asbestos-cement mains. Some of the cast iron pipes are 60 years old and have deteriorated from the alkaline soil conditions. Water use in 1984 was about 200 gallons per person per day. Although the system is capable of producing this quantity of water, lines on the south side of town are not large enough for its distribution. A program to replace deteriorating or undersized pipes is needed before the growth shown in the Williams Community Plan can take place. In 1986, the county applied for a \$475,000 grant which would have extended water and sewer lines south along I-5, but the application was turned down.

To support the level of development ultimately envisioned in Williams, new wells, pumps, and storage tanks will be required to the south of town. City water mains should eventually be extended down Davis, George, Engraham, Zumwalt, and Crawford Roads as these areas are developed. Although an independent water system is proposed for the Williams Industrial Properties (WIP) project, this system should ultimately be interconnected into the municipal system. A consolidated system would lower the risk of the WIP wells depleting the city's groundwater resources.

Irrigation Systems

The idea of using Sacramento River water for irrigation dates back to 1860, when pioneer Will Green proposed that a canal be built from Hamilton City south into Colusa County. It was not until 1889 that groundbreaking on the canal began, following a long legal battle with opposing landowners. Legal obstacles continued to plague the canal as it moved south, ultimately halting construction near Maxwell in 1891. Because the diversion facilities had yet to be built and gaps along the route were incomplete, even landowners ready to receive water could not do so.

The Central Canal and Irrigation Company continued the project in 1904-5, and then abandoned it due to a lack of interest on the part of landowners. The canal was subsequently acquired by the Sacramento Valley Land Company, who used it as part

of their nationwide campaign to sell 20 and 40 acre farms in Glenn and Colusa Counties. By 1913, this scheme too had failed and the canal was purchased by the bondholders. By this time, water was being delivered at \$7 an acre for rice and \$2 an acre for all other crops. With the soaring demand for rice after World War I, the canal was expanded and operation passed into the hands of the Glenn-Colusa Irrigation District.

State water rights on the Sacramento River were complicated when the federal government built Shasta Dam in 1937. It was not until 1963 that a contract was approved clarifying the water rights of the Glenn-Colusa District and the Bureau of Reclamation. The contract allows the Glenn-Colusa District 720,000 acre feet of base supply and 75,000 feet of federal project water.

Further west, the Tehama-Colusa (T-C) Canal provides irrigation water to lands west of Maxwell, Williams, and Arbuckle. The canal was authorized as a federal project in 1950 and construction began near Red Bluff in 1962. By 1980, the canal had reached Dunnigan, just south of the Colusa County line. An extension to the Winters area of Yolo County is planned, providing water to farmers near Woodland and Davis. The canal has enabled a large area formerly used for dry land farming to be converted to orchards and row crops, dramatically increasing the yield per acre on the west side of the valley. The current allocation to Colusa County--175,000 acre feet--will need to be increased in the future as dry grain crops are replaced by crops requiring irrigation. The county now uses about 100,000 acre feet of T-C water a year.

Another source of irrigation water is the Colusa Drainage Trough (the 2047 Canal). Since 1953, individual irrigation districts have agreed to maintain the portion of the canal within their boundaries. In return, they are permitted to divert drain water for farming. In all, the county uses a total of 968,000 acre-feet of water a year, of which 815,000 acre-feet is provided by irrigation canals. The balance is extracted from the ground, where shallow wells tap a groundwater basin that is saturated most of the year.

Table COMM-1 lists all agricultural water suppliers in Colusa County. The list includes four irrigation districts covering 221,000 acres, seven California Water Districts covering 24,000 acres, a County Water District covering 43,000 acres, and two private irrigation companies covering about 2,000 acres. Each district has the authority to collect fees for water use and levy an ad valorem tax if the fees are not sufficient to cover operation and maintenance costs. A 1982 study by Clendenen Associates found that coordination between the irrigation districts was not sufficient and recommended that management be more centralized. A more centralized system would set water rates more equitably and ensure that costs and benefits were distributed more evenly. At the present time, each district is concerned only with the fraction of the county it serves rather than with the county as a whole.

Policies

WA-1 To protect local water rights and interests, Colusa County should present a unified and coordinated approach to water supply issues. The county should support State water policies which ensure that the county has first right to water originating locally.

Table COMM-1: Agricultural Water Districts of Colusa County

<u>Irrigation Districts</u>	<u>County</u>	<u>Acreage</u>	<u>Office Location</u>
Glenn-Colusa	Glenn/Colusa	175,000	Willows
Princeton-Codora-Glenn	Glenn/Colusa	14,000	Princeton
Provident	Glenn/Colusa	23,000	Willows
Maxwell	Colusa	9,000	Maxwell
<u>California Water Districts</u>			
Holthouse	Colusa	1,920	Maxwell
4-M	Colusa	1,790	Willows
Westside	Colusa	12,090	Williams
Glenn Valley	Glenn/Colusa	1,965	Colusa
LaGrande	Colusa	1,490	Williams
Cortina	Colusa	1,290	Arbuckle
Davis	Colusa	953	Arbuckle
<u>County Districts</u>			
Colusa County	Colusa	42,590	Arbuckle
<u>Reclamation Districts</u>			
2047	Glenn/Colusa	230,000	Willows
479	E.Colusa	6,500	Colusa
108	Colusa/Yolo	65,000	Grimes
1004	E.Colusa*	23,000	Colusa
<u>Levee Districts</u>			
LD-3	Glenn/Colusa	13,000	Willows
Sacramento River West Side	Colusa/Yolo	107,000	Grimes
<u>Drainage Districts</u>			
Knights Landing Ridge	Colusa/Yolo	94,000	Grimes
Sacramento River-San Joaquin	Butte to Fresno	1,515,000	Sacramento
<u>Mutual Water Companies</u>			
Willow Creek	Glenn/Colusa	7,000	Willows
Myers Marsh	Colusa	165	Williams
<u>Other</u>			
Colusa Irrigation Co.	Colusa	450	Colusa
Roberts Ditch Co.	Colusa	1,500	Colusa
<u>National Wildlife Refuge</u>			
Sacramento (Colusa Co.part)	Colusa	2,200	---
Delevan	Colusa	6,000	
Colusa	Colusa	4,400	

Source: Clendenen & Associates. Feasibility of Public Agency to Coordinate Water Management in Colusa County. January, 1982.

- WA-2 As its financial resources permit, the county should support studies that improve the understanding of the limitations of its groundwater basin. Opportunities to obtain additional state and federal assistance in this area should be encouraged.
- WA-3 All wells drilled to serve new development shall meet California Department of Public Health water quality standards. If necessary, water shall be treated to meet these standards.
- WA-4 New industries which consume significant amounts of water should be encouraged to recycle the water and ensure its percolation back into the groundwater strata. Water recycling must be undertaken in a manner that protects the groundwater from contamination.
- WA-5 An organized program of well monitoring which evaluates the quantity and quality of groundwater at municipal wells in the county should be initiated.
- WA-6 Where no surface water source is available, the availability of groundwater sufficient to meet project needs should be one of the primary considerations used to determine the suitability of a site for development.
- WA-7 The potential impact of development on the quality and quantity of water in existing wells should be a primary consideration for proposed projects. Future development shall be located in a way that ensures the long-term provision of water to existing and future county residents in an economically feasible, financially sound manner.
- WA-8 Creation of new domestic water districts should be discouraged. Merging of independent water districts into municipal or public utility districts should be encouraged as each community grows. Where public water is available, new industries within Community Plan Areas should be required to tap into this supply rather than drilling independent private wells.
- WA-9 New dwellings located on pre-existing legal lots at densities in excess of those prescribed for "Rural Residential" areas (one house per acre) should be encouraged to enter into a well-monitoring program designed to ensure their long-term access to an adequate water supply.
- WA-10 The County shall support efforts which enable waters of the Tehama-Colusa Canal to be used for municipal and industrial use.
- WA-11 Efforts to centralize the provision of irrigation water and consolidate service districts should be supported where feasible.

WASTEWATER DISPOSAL

Types of Disposal Systems

Wastewater is treated and returned to the natural environment using one of several methods. In Colusa County, the primary methods are on-site disposal and centralized disposal. Five communities in the county--encompassing about 65 percent of the population--are served by centralized systems. The areas served by on-site systems

are generally rural or agricultural. Although most on-site systems serve an individual dwelling or commercial establishment, some serve groups of homes or businesses.

The **on-site systems** consist of a septic tank that receives wastewater, allows heavier solids to settle, and releases the remainder to a leach field. The leach field consists of perforated parallel lines through which water percolates into the soil. The solids remaining in the tank must be periodically disposed. Septic tanks work well at low densities where adequate room can be provided for the leach field and sufficient distance can be maintained between the leach field and potable water wells. They are relatively inexpensive to maintain and operate and have good water recharge characteristics. Their disadvantage is that they require certain soil, topography, and water table conditions to work. If these conditions are not present, the leach field can become saturated and the groundwater may become contaminated.

Septic systems may also be problematic where they serve commercial and industrial establishments. Wastewater may contain chemicals and greases that cannot be adequately filtered before reaching the groundwater. In some cases, chlorine injection or evaporation ponds must be provided on industrial properties to ensure safe disposal of sewage.

On-site systems were once prevalent in the communities of Arbuckle, Maxwell and Princeton. With the increase in water consumption and the use of appliances such as washing machines and dishwashers, most leach fields were simply not large enough to properly dispose of wastewater. Lots were usually too small to enlarge the leach lines, and centralized sewage treatment became a necessity. This has not been the case in Grimes, Century Ranch, College City, and Stonyford, where individual septic systems continue to serve the communities. Since very little development is planned in these communities, they will probably remain on septic systems through the next two decades. Where development does occur, the use of group septic systems should be encouraged to reduce the risk of groundwater contamination. Group systems serve several homes and allow more flexibility in locating the leach field.

Another possible means of sewage treatment where centralized service does not exist would be to build small **package treatment plants** for new development. The package plant uses aeration to speed up the bacterial breakdown of organic material and produces better quality effluent than a septic system. Inside the plant are a screen to remove large solids, a settling chamber, and a disinfection unit. A diffuser or mechanical agitator inside the settling chamber produce oxygen so that aerobic bacteria can grow. Bacteria-laden wastewater moves to the disinfection chamber while solids settle to the bottom. Although these systems are more effective than septic tanks, they are much more expensive to operate and maintain. They would be most effective for industrial uses not served by public utility systems. Their use in new residential development in Colusa County should not be encouraged.

Community treatment facilities serve Arbuckle, Colusa, Maxwell, Princeton, and Williams. Community systems consist of a network of collection lines, a treatment facility, and a disposal system. Treated wastewater is typically disposed through a combination of evaporation ponds and discharge to a stream or drainage channel. A description of the five community systems in Colusa County is provided below. The location of these systems is shown in Figure COMM-1.

Arbuckle. The Arbuckle Public Utility District has provided sewer service to Arbuckle residents since 1953. A system of clay pipes carries wastewater to a

treatment plant north of town. The plant consists of a clarifier, a digester, and 7 evaporation/percolation ponds. The ponds provide sufficient surface area for evaporation and filtration so no effluent is discharged. About 220,000 gallons are treated each day, with about 300,000 gallons treated on a peak day. The system's capacity is 400,000 gpd.

The collection system is in good condition, although stormwater infiltration is a problem during heavy rains. About 200 new residential connections could be supported before additions to the treatment plant would be needed. Additional evaporation ponds will probably be required by the year 2000; more sophisticated equipment may be needed if wastewater from new industries is routed to the plant.

Colusa. The city of Colusa operates a sewage treatment plant and evaporation pond system. The plant and ponds are located in an agricultural area about 1-1/2 miles southwest of downtown. The plant, which was built in 1949, consists of a raw wastewater pumping station, a circular clarifier, an anaerobic sludge digestion unit, and sludge drying beds. Treated wastewater is conveyed via an 18" trunk line to a network of oxidation ponds and evaporation ponds, then to a chlorine contact chamber, and then discharged to Powell Slough 2,000 feet to the east. The ponds cover about 82 acres. Two additional 10-acre ponds are under construction; when complete, the ponds will allow the city to use a more effective system for algae removal.

Effluent from the treatment plant has suspended solids concentrations that exceed state water quality standards. Consequently, the city is only permitted to discharge 500,000 gpd. The amount treated at the plant sometimes exceeds this volume so treated wastewater is sometimes held in the ponds before it is discharged. In 1986, average daily flow at the plant was 480,000 gpd. During the peak month (July), flow through the treatment plant averaged 697,000 gpd, while flow during the low month (February) was 336,000 gpd. The plant's capacity is between 1.5 and 2.0 million gpd. Once the suspended solids problem is corrected, the plant should be capable of handling Colusa's growth through the next two decades. Additions may be required if Colusa Industrial Properties is linked to the municipal system and if new industries locate within the service area.

Most of the city's collection system was installed in 1910. About 90 percent of the system is vitrified clay pipe, while the remaining lines are composed of asbestos-cement or concrete. Although many of the lines are old and prone to infiltration, the system is generally sufficient to handle existing flows. The 1984 Sphere of Influence Study for the city identified the following problems: (1) mortar joints in the northern part of the system were in need of replacement; (2) the 12" trunk line between Ware Avenue and the lift station was in need of replacement; (3) pumps at the lift station had insufficient capacity and needed to be replaced; and (4) the trunk line serving the Wescott Road and East Side areas needed to be increased in size. The last two items continue to pose a constraint to development on the city's south and east sides. A larger trunk line and new lift station will be required before additional development can occur in that area. To cover the cost of maintaining and extending the system, the city enacted "inclusion" fees for new development in 1987.

Maxwell. Maxwell's sewage treatment plant consists of three oxidation ponds and a chlorinator and is located about one mile south of town. The plant, which was rebuilt in 1973, handles between 35,000 and 50,000 gallons per day. Treated effluent is discharged to a drainage ditch which leads to Lurline Creek. The collection system consists primarily of 6" and 8" concrete pipes and 12" vitrified clay pipe. Concrete pipes in the southeast part of town were replaced with PVC pipes in 1982, correcting

an infiltration problem and improving the efficiency of the system. The replacement program will continue over the years ahead and eventually all concrete pipes should be replaced with the less porous PVC pipes.

The Maxwell treatment plant can handle more than double its present number of residential customers and should be sufficient to meet the town's needs through the year 2010. However, the plant would probably need to be upgraded if large industrial users moved to town.

Princeton. Princeton's sewage treatment system provides service to about 85 customers. The system, which was constructed in 1969, consists of two aeration ponds and a lift station. The ponds are relatively odor-free, in part because they are operating at about 20 percent of their design capacity. Expansion of the collection and treatment systems should not be required during the next two decades.

Williams. The City of Williams operates a municipal sewage treatment plant on a 30-acre site north of town. The plant consists of one aerated lagoon and three oxidation ponds. Sewage is chlorinated and effluent is discharged to a ditch leading to Salt Creek. In past years, the city has applied for federal assistance to upgrade the plant since it does not meet minimum discharge requirements. No funds have been approved at this time.

The treatment plant was originally designed to handle 500,000 mgd, but has been upgraded to handle about 600,000 mgd. The current flow is half this amount, or 300,000 mgd. About 300 new residential connections could be supported by the system. The plant will need to be upgraded to increase the volume of wastewater it can handle and to improve the quality of treated effluent. Segments of the wastewater collection system will also need to be upgraded. The vitrified clay pipes are prone to excessive infiltration of stormwater during the rainy season. As development occurs south of the city, sewer service should be extended south; use of septic tanks for new homes along Davis, George, Engraham, and Zumwalt Roads should be discouraged as this area is planned for urban densities.

One long-term possibility for Williams is to relocate municipal sewage treatment to a reserve site in the Williams Industrial Properties project. A treatment plant serving that project is planned on a 54-acre site in the northeast portion of the development. A lift station could be constructed at the existing city plant and wastewater could be routed south and east to the new plant. The existing plant is has a history of odor problems, as it is upwind of the city and relatively close to residential areas. The Industrial Properties site is east of the freeway and would be much more remote from the center of town.

Policies

- WWT-1 Future development should be located in a way that ensures the economically feasible and environmentally sound provision of wastewater treatment.
- WWT-2 Development at urban densities should be discouraged in communities not served by a central sewer system. Where rural development occurs at densities of more than one unit per acre, the use of groups septic systems should be promoted.

WWT-3 Subject to review by the Department of Environmental Health, Colusa County should permit "alternative" on-site treatment systems in rural areas, including mound systems.

DRAINAGE AND FLOOD CONTROL

Sacramento River and Colusa Basin Flood Control

Efforts to control floodwaters along the Sacramento River date back to the turn of the century. Winter flooding was a recurring problem on the valley floor due to the county's flat terrain and flood volumes that are exceeded by only three other rivers in the United States. After attempts to build levees along the river failed during the early 1900s, the State adopted a Sacramento River Flood Control Project and created the State Reclamation Board to administer the project. The Sacramento and San Joaquin Drainage District, encompassing 1.5 million acres of the Central Valley, was created to acquire and assess lands benefitting from the project. The project was initiated in 1917.

Sacramento River floodwaters were diverted through a weir just north of Colusa into the Sutter Bypass. The bypass drains south 40 miles to Knights Landing where waters are diverted to the west side of the river, into the Yolo Bypass and eventually to the Delta. While the State Project effectively contained Sacramento River waters, it did not address winter flooding of the Colusa Trough, a low-lying area parallel to and several miles west of the river. During the 1910s, Reclamation District 108 and other entities built a levee along the Trough to divert floodwaters from the west between Colusa and Knights Landing. Their efforts were supplemented in 1919, when Reclamation District 2047 was created to construct a ditch from Willow Creek in Glenn County to a point about 10 miles south of Colusa.

Due to the increase in irrigated acreage west of the Trough, winter runoff now exceeds the capacity of the ditch and flooding is once again a problem. The ditch was designed to drain 100,000 acres of rice and now handles double that amount. Maintenance of the drain is uncoordinated and spotty, and is limited by a lack of funds. Makeshift levees line the drain from one end of the county to the other. There are also trees and structures which may prevent the drain from operating efficiently. The private and public costs of flooding in the Basin are substantial. In 1983 and 1986, floods caused displacement and complete destruction of buildings, water damage, siltation, loss of utilities, road damage, transportation slowdowns, and a loss of goods and materials.

Drainage problems in the Basin have been exacerbated with construction of the Tehama-Colusa Canal. Western valley lands were not irrigated before the canal's construction and therefore were not a significant contributor to runoff. Since the federal environmental impact statement for the Canal did not address the impacts of additional water delivery on drainage and flood control needs in the Basin, no mitigation measures were established to protect the Trough from the additional stormwater.

Opinions on a permanent solution to flooding in the Colusa Basin are mixed. Most agree that construction of additional facilities would overtax local resources and must await State or federal funding. Some have suggested that constructing flood control dams on streams draining into the basin would be effective. However, the

cost of the dams would be prohibitive unless their hydroelectric power potential could be tapped. Construction of flood-control lakes might also induce residential development, undermining the land use plan and possibly interfering with agriculture or ranching.

The California Legislature recently approved formation of a Colusa Basin Drainage District, encompassing parts of Glenn, Colusa, and Yolo Counties. The District has been charged with developing a comprehensive plan for flood control in the Basin. When a preferred solution is chosen, the District will seek funding for its implementation. The District is to be operated by a 9-person board of directors, including three appointees of the Boards of Supervisors, three appointees of area drainage, irrigation, and reclamation districts, and a representative to be elected from each county. The federal government has also authorized funds for repair of the Trough levees in Colusa and Yolo counties.

Tributary Flood Problems

Erosion and drainage problems are not limited to the Colusa Drain and Sacramento River areas. Drainage courses across the valley have been altered as farmers have straightened channels, leveled fields, and realigned streams. In some cases, this has resulted in faster runoff rates and increased erosion and sedimentation. Siltation has filled many roadside culverts with sand and gravel, causing floodwaters to back up behind bridges and erode adjoining lands. The natural drainage pattern has also been altered by road construction and by construction of canals that run perpendicular to natural drainageways. There is an evident need for a countywide drainage plan that addresses these issues comprehensively.

Recognizing this need, the Colusa County Flood Control and Water Conservation District was created in 1983. The Board of Supervisors are the governing body of the District, which has the stated objective of "achieving total water management for Colusa County". Residents of the county may now form zones of benefit and may levy taxes to cover the cost of drainage improvements within these zones. Such a zone was created in Colusa in 1987 after the city became concerned about the future of an abandoned railroad embankment that blocked floodwaters during the 1983 floods. The incident pointed to the need for a thorough study of flood control measures needed to protect the Colusa area.

Community Storm Drainage Systems

The need for storm drainage improvements has also been identified in the city of Colusa; storm drains on the east side are already at capacity. During heavy rains, the combination of clogged surface drains and small diameter pipes cause the system to back up and flood local streets. Colusa is the only town in the county with an extensive storm drainage system; roadside drainage ditches and culverts are used in the smaller communities.

Storm drainage is also an issue in Williams, where a large portion of the city lies within the 100-year flood plain of Salt Creek. In the past, drainage problems have been addressed on a parcel by parcel basis, often transferring the problem from one parcel to the next. An overall flood control solution has yet to be proposed. Further development of the flood-prone area is not recommended until the boundaries of the flood plain are verified and a solution to existing drainage problems is reached.

Storm drainage is a lesser issue in Grimes, Arbuckle, Maxwell, and Princeton. The latter three towns were the subject of storm drainage studies between 1977 and 1979. Each study recommended a series of capital improvements to reduce problems such as overbank flooding of roadside drainage ditches. Some of these improvements are now in place.

The Community Plans have made a conscious effort to channel development away from flood-prone areas. Nonetheless, increased development will reduce the amount of permeable ground surface and increase runoff rates, especially to Salt Creek in Williams. Additional storm drainage and channel improvements may be needed to prevent street flooding within developed areas and overbank flooding in downstream agricultural areas. As with other categories of public service, new development should be required to mitigate the drainage impacts it creates.

Levees

Four local levee and reclamation districts maintain the Sacramento River levees in Colusa County. Areas lying outside the boundaries of these districts--including the west bank of the river between Glenn County and the city of Colusa--fall within designated State Maintenance Areas (SMAs). The State Department of Water Resources (DWR) maintains the levees in these areas through a zone of benefit assessment. Because the DWR has high overhead and labor costs, their maintenance charges are considerably higher than the local districts'.

Between 1982 and 1986, the county did not pay the State for maintenance work and accrued an overdue bill of \$115,000. To cover the cost, it became necessary to assess residents of the SMAs for "back taxes" in 1987. The county is presently considering including the SMAs in a local levee district. The advantage would be lower operating costs and lower taxes for residents of the district. The disadvantage would be the local liability in the event a levee is breached. Insurance costs to cover such a catastrophe could be so high that it might be cheaper to keep these levees under state control.

Policies

- FL-1 The cost of flood control and drainage improvement projects should be allocated fairly among those responsible for the problem and those benefitting from the solution.
- FL-2 Colusa County should support preparation of a countywide drainage and flood control plan which assesses the needs and costs of different options for reducing flooding.
- FL-3 Wherever possible, flood control projects should avoid extensive alteration of natural creeks and destruction of riparian vegetation.
- FL-4 New development should be required to mitigate its drainage impact through any of a series measures that should be explored in a countywide drainage and flood control plan.

- FL-5 The use of special assessments within geographically defined zones of benefit should be used as a means of financing flood control and drainage improvements.
- FL-6 Future development in the county should be located in a way that precludes the need for costly flood control structures and drainage improvements. Development in the 100-year flood plain should be discouraged; no critical or high occupancy structures such as schools and hospitals shall be permitted in the flood plain.
- FL-7 Comprehensive drainage solutions to community flooding should be supported. Piecemeal solutions which divert floodwaters from one parcel to adjoining parcels shall be avoided. Environmental evaluation of development should always consider cumulative drainage impact.
- FL-8 The County should support efforts to acquire state and federal funds for the reconstruction of levees and other flood control structures.

SOLID WASTE

System Profile

As mandated by a 1972 State law, Colusa County prepared a Solid Waste Management Plan in 1975. This plan, which addresses the collection of solid wastes, its disposal in landfills, and recycling, provides the basis for the county's present solid waste disposal program. The plan is now 14 years old and needs to be updated to reflect new fiscal, environmental, and management concerns. Because solid waste management will be addressed in a number of upcoming studies and reports, the issues are discussed only briefly here. Policies for collecting and disposing of waste, and paying for landfill operation will need to be developed in the near future.

There are four types of waste generated in Colusa County: residential wastes, commercial wastes, industrial wastes, and natural resource byproducts. About 50 percent of the wastes brought to the landfills are from residential customers. Commercial wastes make up about 30 percent of the waste disposed and industrial wastes make up just over 10 percent. Pirelli Cable is the only major industry using the landfill and its refuse is similar to refuse generated by commercial businesses. Natural resource refuse includes rice stubble and straw, manures, gas well muds, cannery wastes, and wastes from prune dehydrators. Rice straw and stubble is usually burned or disked into the land and manures are usually used for fertilizer.

Prior to 1975, the county operated seven open dumps near Arbuckle, Colusa, Grimes, Maxwell, Princeton, Williams, and Stonyford. An eighth dump on Fouts Springs Road was operated by the U.S. Forest Service. The dumps were closed after operations were centralized in two sanitary landfills--one south of Stonyford and another on Evans Road--and a 10-acre transfer station south of Maxwell. The transfer station was needed to reduce the distance over which waste from the Princeton and Maxwell areas would need to be hauled. The Evans Road landfill was initially designed with a 20-year capacity, but was expanded so that it could accommodate the county's growth beyond the year 2010. The landfill could reach capacity sooner than 2010 if the county accepts waste from other counties, experiences a great surge of industrial growth, or permits private firms from other regions to use the facility. The location of the landfills and abandoned dumps is shown in Figure COMM-1.

While expansion of the landfill is not essential at this time, the county should consider acquiring adjacent land to meet its long-term needs. A larger landfill site would offer more flexibility when considering policies regarding solid waste disposal. Additional land would also provide a buffer between the site and adjoining agricultural land. Finally, when expansion is required, it would be easier to expand on to an adjoining site rather than a site in another part of the county. One option for expansion would be to realign a drainage ditch within the existing landfill. This would free up about 30 acres that are now unuseable and would avoid the purchase of additional private land.

Solid waste collection is a municipal operation in Colusa and Williams. Two private contractors provide waste collection services elsewhere; one serves the other valley towns and one serves the Stonyford-Lodoga area. As of 1975, the Evans Landfill received about 950 tons of refuse a month, while the Stonyford Landfill received about 50 tons a month.

Privately-Operated Designated Solid Waste Facilities

A privately-operated designated solid waste facility has been proposed on a 160-acre site three miles northwest of Arbuckle. The facility has been designed to receive non-toxic saline wastewater and brines which are drawn up during natural gas drilling. As planned, it will consist of 16 brine evaporation ponds; a stormwater/emergency management pond, office, laboratory, and storage buildings; and staging, off-loading, and processing areas. The ponds would be lined with synthetic material as well as reworked clay from the site. Toxic materials or hazardous wastes would not be permitted at the site; trucks containing such wastes would be turned away.

Location of the project, which is commonly known as CERRS (Charter Evaporation Resource Recovery Systems), is shown and designated in Figure COMM-1 (PWSF). The land use authorized adjacent to and near this CERRS site is General Agriculture (A-G), which is compatible with the establishment and expansion of the CERRS site (Government Code Section 66796.49 (b) (1) and (2)). The ponds are to be developed over a period of about 2 years and will have a lifetime of about 20 years. Once closed, the site could be restored to agricultural use or revegetated.

At the present time, saline wastewater is either injected into the ground through abandoned gas wells or disposed at the Evans Road Landfill. More stringent requirements for the Evans Landfill now being set by the Regional Water Quality Control Board may restrict or prohibit the disposal of brines at that facility. At the same time, there is a growing concern about the impact of injection wells on the groundwater basin. The CERRS project addressed both of these concerns and appears to offer a viable, environmentally sound alternative. Accordingly, the Planning Commission requested that an Environmental Impact Report be prepared for the Charter project to ensure that environmental impacts could be adequately mitigated. The CERRS EIR was finalized and adopted by the Colusa County Planning Commission.

In addition to the CERRS project, private disposal facilities are proposed just south of Colusa Industrial Properties (for wastewater disposal) and on Meyers Road (for solar saltwater evaporation ponds). These facilities are shown on Figure COMM-1.

State-Mandated Landfill Testing

Colusa County has recently found itself faced with several state mandates for studying the impact of its landfills on the environment. The county is required to develop a Waste Assessment Plan and a Waste Discharge Plan, and is expected to use local resources to pay for these plans. When these studies and tests are complete, the county will find itself faced with the cost of correcting whatever problems are revealed, as well as the cost of an annual testing and monitoring program. These costs, coupled with the expense of maintaining the landfills and transfer station, forced the county to set gate fees during 1987. Annual fees were charged to the cities of Colusa and Williams; these costs have been passed on to customers through hikes in the monthly service charge.

The gate fees and city fees alone will not cover the cost of testing, monitoring, and correcting problems at the landfills. Among the options considered during a series of meetings in 1987 were: (1) further increases in the gate fees and increases in the Colusa and Williams service charges; (2) creation of a countywide service district and levy of a property tax based on type of use; (3) reduction in operating hours, to three days a week at the Evans Landfill and two days a week at Stonyford and Maxwell; (4) closing the Maxwell Transfer Station, unless its gate fees can fully cover its operating costs; (5) selling waste disposal privileges to private enterprise in other counties; (6) franchising the landfills and transferring liabilities to private enterprise; (7) allowing Yuba and Sutter Counties to operate the Evans landfill and in exchange, allowing them to dump at the site; and (8) ignoring the State mandate and continuing "business as usual". Only the last option has received public support.

Although ignoring the State mandate is a popular rallying cry, it is not an effective long-term solution to the problem. The environmental impacts of the landfill must eventually be studied and corrective action must be taken if there are problems. Increases in user fees have opposed most vocally by the city of Colusa, while residents of Maxwell and Princeton have been opposed closure of the Transfer Station. Use of the Evans Landfill to generate "income" for the county has sparked strong opposition from residents in Arbuckle; a proposal to let a private firm from out of the region dump asbestos at the site raised concerns about environmental impacts and groundwater safety. The reaction also suggested that county residents would not favor a solution in which other counties deposit their wastes in Colusa County, no matter how much money might be collected. The debate over landfill financing is unresolved and should be a major focus of the updated Solid Waste Management Plan.

Meanwhile, the county has just completed a hazardous waste management study with State funds provided through the Tanner Bill. The study was prepared in response to a state law which will prevent the county's landfills from receiving hazardous materials beyond 1991. The Tanner Plan sets criteria for hazardous waste disposal. It examines the kinds of wastes generated in the county and recommends ways to dispose of them safely and economically. The plan also examines what kinds of provisions should be made after the 1991 limitation is in place. A hazardous material transfer station will probably be required to contain toxic materials while they await transport to a designated disposal site.

Policies

- SW-1 Colusa County shall update its 1975 Solid Waste Management Plan and explore the need for new or changed facilities, options for collection and disposal, the environmental impacts of disposal, and methods of financing waste collection and landfill operation.
- SW-2 Colusa County should promote and encourage practices and technologies which reduce the use of hazardous substances and the generation of hazardous wastes, recover and recycle wastes for reuse, and treat those wastes not amenable to reduction or recycling so that the environment and community health are not harmed by their disposal.
- SW-3 Commercial suppliers and manufacturers of farm and non-farm chemicals should be encouraged to utilize closed, reusable containers.

LAW ENFORCEMENT

System Profile

The unincorporated areas of Colusa County receive general public safety and law enforcement services from the County Sheriff Department. The Department also serves as the Coroner's Office and the County Emergency Services Center. The County Sheriff Department operates a single dispatch center on Bridge Street in Colusa; all emergency calls in the county are handled through that center. With a staff of just 18 patrol officers and a patrol area of 1140 square miles, the department's resources are at their limit. Six correctional officers manage a jail population that averages 35 inmates, up from 10 inmates just 6 years ago. The Department's resources have also been strained by an increase in civil process cases and by more complicated state-mandated data reporting procedures.

In all, there are 45 staff members, including 27 sworn staff. This is an increase of 4 people since 1981, despite much greater increases in the number of arrests. There are presently about 2 sworn officers per 1,000 county residents. Based on population projections for the county and the same ratio, about 47 sworn staff would be required by the year 2010. With 98 beds and about 35 percent occupancy, the county jail appears to have adequate capacity to handle projected growth.

Municipal police departments serve the cities of Colusa and Williams. Colusa has 9 sworn police officers, one civilian animal control officer, and one full-time and one half-time secretary positions. Williams has 5 sworn police officers and no clerical staff. Both cities use the county jail for all detention cases. Since many municipal police matters cross jurisdictional lines, the city forces work very closely with the Sheriff Department. The County provides 24-hour dispatching services for the cities, and the cities and county participate jointly in search and rescue efforts.

A number of other law enforcement agencies operate within Colusa County. The District Ranger has responsibility for the Mendocino National Forest. The Fish and Game Warden patrols the National Wildlife Refuges. During 1987, the county participated in the State Campaign Against Marijuana Planters (C.A.M.P.), using aerial surveillance to spot and recover marijuana plants in the Stonyford area. Finally, the State Highway Patrol (CHP) operates on state roads in the county and maintains an office and vehicle yard in Williams.

Although the county's crime rate is relatively low, the demand for police services will inevitably rise as the county grows. Increased population and tourism will need to be matched by new personnel, facilities and equipment. Increased traffic volumes will result in more accidents, more violations, and greater responsibilities for the Sheriff Department. As the county attracts new industry, there may be a variation in the types of crime committed; there may be increases in vandalism and equipment theft. Finally, residents moving to the county from urban areas may have higher expectations for response time; unless the function of the department is changed, it will be very difficult to meet these expectations.

Even at the present time, the Sheriff Department needs 2 additional deputy officers and 2 correctional officers. As the force grows, new squad cars and vehicle maintenance areas will be needed and the Department is likely to require additional office space. In fact, the Department has already enclosed a carport and converted it to office space. Further expansion is likely to come through additions to the main building rather than through addition of substations in outlying communities.

Policies

- LAW-1 To minimize increases in crime, new subdivisions and buildings should be designed to foster a sense of community. Rental housing and other high-density developments should be designed so that residents may feel responsible for their properties and for informal surveillance of activities around their home.
- LAW-2 To reduce service inefficiency, annexations which leave irregular borders or unincorporated "islands" should be minimized.

FIRE

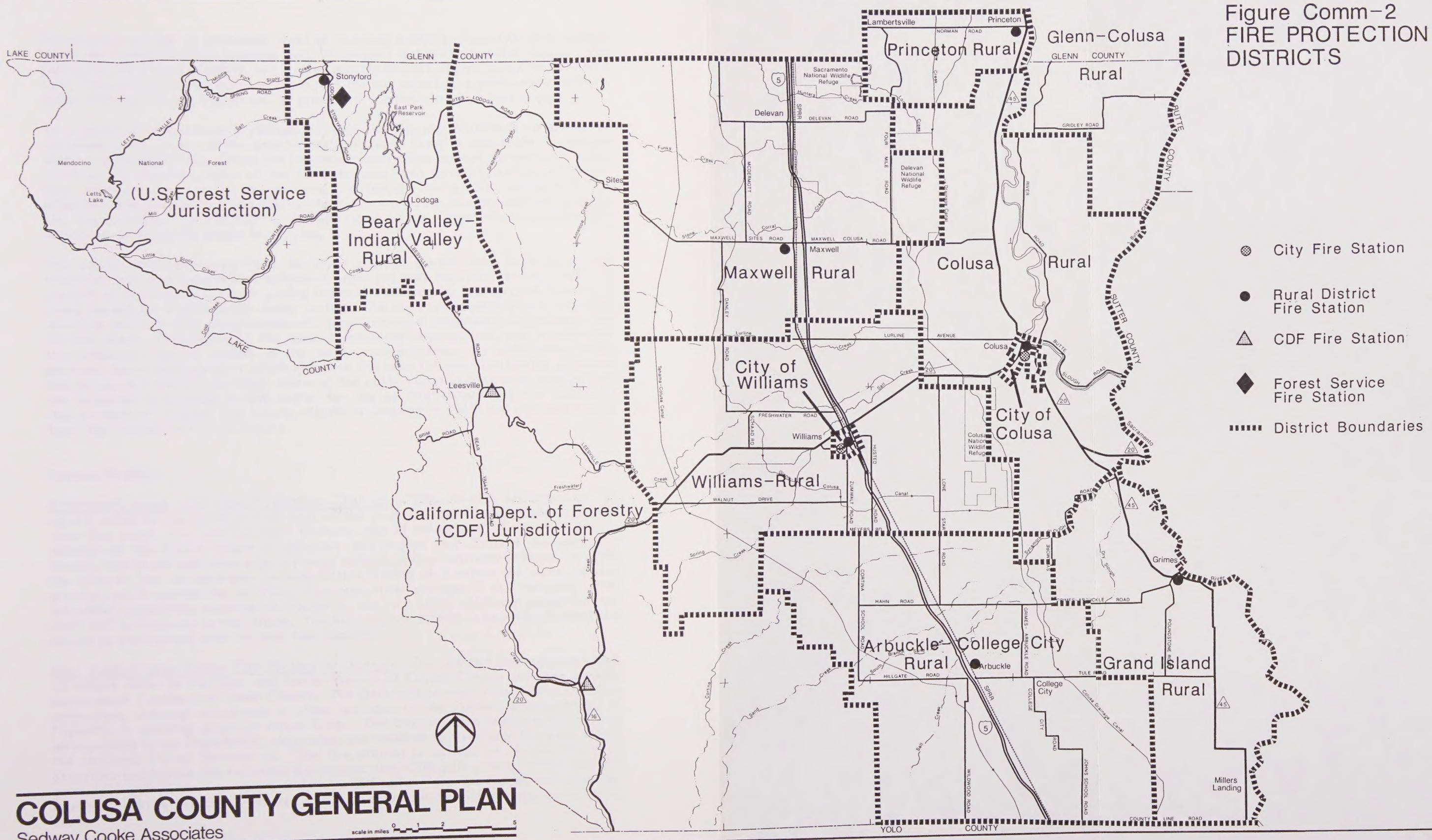
Overview

Fire protection services in Colusa County are provided by 8 rural districts, 2 city fire departments, the California Department of Forestry, and the U.S. Forest Service. The majority of the districts are staffed by volunteer fire fighters. There are mutual aid agreements between most of the agencies to ensure that adequate manpower and equipment can be provided when a fire occurs. Fire Districts and stations are shown in Figure COMM-2.

The incidence of fire in the county is relatively low, particularly on the valley floor where the hazards are also low. The greatest hazards are in those areas under the jurisdiction of state and federal agencies and occur between June and October. Each summer, the CDF and US Forest Service increase their staff in anticipation of brush and forest fires. The 8 rural fire protection districts are responsible for structural and wildfire protection as well as medical emergencies within their boundaries. Response times can be as quick as one minute in the cities to more than 20 minutes in the rugged mountain areas.

Each district is assigned a rating by the Insurance Service Office (ISO) to determine its insurance costs. The ratings can range from 1 to 10, with higher numbers indicating less protection. Fifty percent of the rating criteria is based on the agency

Figure Comm-2
FIRE PROTECTION
DISTRICTS



(equipment, number of personnel, level of training, pumping capacity); 10 percent is based on communication systems, and 40 percent is based on water supply. ISO ratings in the 8 rural districts and 2 city departments in Colusa County range from 5 to 9. The poorer ratings occur in areas that are not served by a public water system, areas with insufficient equipment, or areas with inadequate water flow capacity.

As a result of high insurance ratings, and high liability and workmen's compensation insurance costs, many of the smaller districts have found it impossible to operate without a financial loss. Often the insurance costs alone exceed the district's entire revenue. In response, some of the districts have been forced to retire vehicles or hold elections for special assessments. Although the special assessments are effective, the smaller districts may not have the manpower to campaign and promote the tax increase. In the future, special types of insurance which accommodate volunteer departments should be pursued.

The county and community land use plans channel growth into those areas with relatively low fire hazards and sufficient water pressure for fire fighting. About 95 percent of the county's growth during the next two decades is projected to occur in areas served by a community water system. As each community grows, rural fire districts and city fire departments will face increased manpower requirements and vehicle needs. Depending on the pace of industrial development, new or expanded fire stations may be needed in the larger communities. As with other public services, large developments which generate the need for new firefighting personnel and equipment should bear their share of the cost. Isolated sites with development are required to provide on-site water for use by firefighters (per the California Department of Forestry fire hazard standards adopted in 1985) and will continue to face this requirement in the future.

District Profiles

Arbuckle/College City Fire Protection District. This district encompasses 124 square miles in the south central part of the county. Staff includes one paid full-time fire chief, one paid full-time fireman, and 32 volunteers. The fire station is located at 506 Lucas Street in Arbuckle and houses four Class A pumpers, one tanker, two brush and grass rigs, a rescue vehicle, and a command vehicle. In 1984, the District had an Insurance Service Office Rating of 5 within the water service district and 8 outside the district. Response time averages 7 to 9 minutes. With Arbuckle's population expected to double by the year 2010, additional equipment and staff will be required in the future. The existing fire station is centrally located and should be maintained over the next two decades.

Bear Valley/Indian Valley Fire Protection District. This district encompasses about 60 square miles in the Bear and Indian Valleys of Colusa County and also extends north about 7 miles into Glenn County. The District's primary role is structural fire protection, although assistance is often provided to the California Department of Forestry in battling grass or range fires. The District also responds to medical emergencies in the Stonyford-Lodoga area and responds to structural fire calls within the National Forest Boundaries. The fire station is located on Market Street in Stonyford and houses the following equipment: one 4500 gallon tanker truck, two 600 gallon/650 gpm Class I pumpers, and three 250 gallon Ford fire trucks, including two four-wheel drive trucks. There are about 15 volunteer firefighters and no full-time staff.

Rising insurance costs have forced the district to take five pieces of equipment out of service, including the vehicle used for medical emergencies. In fact, insurance costs have risen to the point where they alone exceed the district's total revenue by about 50 percent. This is a serious constraint to development in the Stonyford area and there is no indication that financial relief is on the way. Fire hazards are more severe in this area than in most parts of the county due to the terrain and vegetation; fire protection must be one of the foremost concerns in evaluating any development within the district. With the increase in recreational activity in the Forest and continued growth at Century Ranch, fire protection must be made a more urgent priority during the coming decades.

Colusa Rural Fire Protection District. This District encompasses 128 square miles of unincorporated land around the city of Colusa. Staff includes one paid fire chief and 30 volunteers. The fire station is located on Market Street in Colusa and houses a staff car, two rescue trucks, and three smaller trucks. The District's Insurance Service Office Rating is currently under review; the rating is 7 for areas served by municipal or private water systems and 9 in outlying areas. Since the district acquired a 4,000 gallon tanker truck in 1984, the rating in outlying areas may be improved to 8. Residents of the District approved a special assessment in 1986 to cover the rising cost of service delivery, especially insurance costs.

Although moderate growth is projected within the Colusa Rural District, it is recommended that rural areas be annexed to the city prior to their development. Areas such as 14th Street, Colusa Industrial Properties, and Goad's Extension may ultimately be served by the city fire department. Since the two fire departments often work together, the possibility of a combined city-rural fire station should be considered during the next two decades.

City of Colusa Fire Department. Colusa's municipal fire department protects the 1.8 square mile area within the city limits. The City fire station is on Market Street, about 8 blocks west of the Rural fire station. Equipment includes two staff vehicles, two pumpers, one aerial ladder truck, one emergency rescue truck, one reserve pumper, and one mobile light plant. The Department has 6-½ paid staff and 25 volunteers. Paid staff include one chief, one assistant chief, three driver-operators, one fire-fighter, and one part-time dispatcher. The Insurance Service Office Rating is 5.

The Department's resources will need to be increased during the next two decades to keep pace with the community's growth. By the year 2010, most of the developed acreage within the Colusa Rural Fire District will be annexed to the city and fire protection responsibilities will be transferred to the city. Meanwhile, vacant land around Colusa will generally be annexed before it is developed, further increasing the population served by the District. Joint City-Rural District efforts to meet future fire protection needs should be pursued during the coming years.

Glenn-Colusa Fire Protection District. This district provides service to a small, sparsely populated area between the Sacramento River and Butte Creek. The majority of the service area is in Glenn County and the fire station is in Butte City, about 4 miles north of the county line. Development is not likely in this area due to flood hazards, poor access, and a lack of urban services.

Grand Island Fire Protection District. Grimes and surrounding areas receive fire protection service from the Grand Island Fire Protection District. The District operates a fire station on Highway 45 in Grimes and has 27 volunteer firefighters.

Response time varies from five to 20 minutes. The District handles many more medical emergencies than fire emergencies and grass fires are much more common than structural fires. In fact, the last structural fire in Grimes was in 1981. During 1986, the District handled 18 calls.

Grand Island has an Insurance Service Office Rating of 7. Fire and rescue equipment includes a 750 gpm Ford pumper, two 500 gpm Jimmies (1951, 1963), and two 1700 gallon/300 gpm tankers. As in the other rural county fire districts, this district has been burdened with insurance costs that threaten its solvency.

Maxwell Fire Protection District. About 130 square miles in the north central part of Colusa County is contained within this district. Staff includes one part-paid fire chief and about 30 volunteers. The fire station is located at 231 West Oak Street in Maxwell and houses a first aid wagon, four pumpers, two tankers, and two chief wagon/jimmies. The area served by the district has an Insurance Service Office rating of 6 within a 5-mile radius of the station and 8 beyond that radius. Ratings in town might be improved since new water lines have been constructed.

The District handled about 90 calls in 1986, with about half the calls for medical emergencies and half for grassfires. Structural fires are very uncommon. The District is occasionally called on to extinguish fires in rice fields when blowing smoke obscures traffic. At the present time, high insurance costs are the District's greatest concern. In the future, additional equipment may be needed to serve the larger population and greater number of structures. As the town grows, an increasing percentage of calls are likely to be medical emergencies or structural fires.

Princeton Fire Protection District. The Princeton District includes the northeastern part of the county and includes a fire station on Highway 45 in Princeton. The District consists entirely of volunteers and is called upon primarily for medical emergencies and grass fires. About 20 calls were handled in 1986. Equipment includes a water tanker, a pumper, and two small pick-up trucks with pumpers. Although equipment is generally adequate, the District has been troubled by the high cost of insurance and workmen's compensation.

Williams Rural Fire Protection District. The Williams Rural District and City Fire Department jointly operate a fire station on "E" Street in downtown Williams. The District service area covers 136 square miles in the center of the county. The same personnel--one part-paid fire chief and 44 volunteers--operate both the City Department and the Rural District. Response time in the rural areas averages between three and eight minutes. The District operates a chief vehicle, two pumpers, three grass trucks, and one tanker. The Insurance Service Office Rating is 8 within 5 miles of the city and 9 outside that radius.

A substantial amount of growth is projected within the Williams Rural District over the next 20 years. As in the case of the Colusa Rural District, most of the growth areas will be annexed to the city before they are developed and will consequently be served by the City Fire Department. Since the two departments share the same facility, planning for expansion and new equipment should be a joint effort.

City of Williams Fire Department. As documented above, the City Fire Department and Rural District share a common fire station and personnel. Response time in the city averages one to three minutes. The District operates two pumpers and has an Insurance Service Office Rating of 6. Projected residential growth on the south side of the city and industrial and commercial growth to the east could drastically

increase fire protection needs in Williams. The city's population may triple by the year 2010. New industries could bring new fire hazards that could not be dealt with by existing vehicles and manpower. Water lines on the south side will need to be upgraded, additional equipment will be required, and the possibilities for a new fire station site should be explored. The site should be central to areas that are already developed and areas that are expected to develop in the coming years.

State/Federal Responsibility Areas

Wildfire protection in the non-federally owned upland areas, or State Responsibility Areas (SRAs), is the responsibility of the California Department of Forestry (CDF). The CDF has jurisdiction over 293,520 acres in the county. They operate fire stations at Leesville and on Highway 16 just south of the Highway 20 junction. Both stations are manned between June 15 and November 1. Each station has one piece of fire fighting apparatus and is normally manned by one captain and two firefighters. The CDF also assists with medical aid response and structural fire protection in parts of western Colusa County. Response time to a fire varies from two to over 20 minutes.

Wildfire protection within the Mendocino National Forest is provided by the U.S. Forest Service. They operate wildland pumper units and one engine from their station in Stonyford. The Department runs a fuels modification program that has been very effective in keeping the number of fires to a minimum. They work closely with the CDF and rely on the Bear Valley/Indian Valley Fire District for structural fire protection. An engine foreman, driver, and three fire-fighters man the Forest Service Station between June and October. The Forest Service also maintains an unmanned lookout tower on Goat Mountain.

Policies

- FIRE-1 When an unincorporated area is annexed to a city, fire protection responsibilities should be transferred from the rural service district to the city fire department.
- FIRE-2 Proposed development applications should be referred to the local fire chief for recommendations and comments. Comments should include specific recommendations about equipment, manpower, or facilities that might be required as a result of the development.
- FIRE-3 Mutual aid agreements shall continue to be supported between Rural Fire Protection Districts, City Fire Departments, the California Department of Forestry, and the US Forest Service.
- FIRE-4 Development which could create a public hazard in the event of fire shall be located away from existing and planned residential areas.
- FIRE-5 New development should incorporate design measures which are responsive to the risk of fire hazard in those areas.

EMERGENCY MEDICAL SERVICES

Service Profile

Ambulance and emergency medical services are provided to Colusa County by a private contractor. The contractor provides one ambulance crew in Colusa and a second crew in Williams. Over \$100,000 from the County general fund were spent on these services in both 1987 and 1988. Because of the drain this expense has placed on the general fund, creation of a special district to cover ambulance services was presented to the electorate in 1988. Although an advisory measure had passed in 1987, the 1988 funding measure was not approved.

At the present time, Colusa is one of just two counties in northern California with medical personnel trained at the Emergency Medical Technician-I (EMT-I) level. When voters were asked to form a service district to finance ambulance services, they were also asked to form a district that would upgrade medical equipment and training to the EMT-2 level. With EMT-2, technicians would be trained to practice life-saving cardiac therapy and use new medical and communication equipment to be purchased by the county. However, this measure, which had a one-time cost of \$75,000, also did not pass.

Policies

EM-I A numbered address system should be implemented for rural residences so that emergency vehicles can be dispatched more efficiently.

EDUCATION

District Profiles

There are six school districts within Colusa County, including three districts which encompass portions of adjoining counties and three contained entirely within Colusa County. Four of the districts--Colusa Unified, Maxwell Unified, Pierce Joint Unified, and Williams Unified--are governed by the Colusa County Superintendent of Schools Office. The Superintendent's Office is a public agency which operates a variety of academic, business, consulting, and vocational programs, including the education of handicapped children, wards of the Juvenile Court, and migrant pre-school children. The Office serves as an intermediate unit between the State Department of Education and the local school districts. The other two districts in Colusa County--Stony Creek Joint Unified and Princeton Joint Unified--are governed by the Glenn County Superintendent's Office. The schools and district boundaries are shown graphically in Figure COMM-3. Enrollment trends within each district are shown in Table COMM-3.

Colusa Unified. This District has the largest student enrollment of the six districts, with 1289 pupils attending its three schools during the 1986-87 school year. Facilities include Burchfield Primary School (K-3), Egling Middle School (4-8), and Colusa High School (9-12), all located within the city of Colusa. The district has witnessed an 8 percent enrollment increase during the last two years with much of the increase coming at the primary levels. In fact, enrollment at Burchfield Primary

Table COMM-2: School Enrollment in Colusa County¹

	<u>1984-85</u>	<u>1985-86</u>	<u>1986-87</u>	<u>Two-Year % Increase</u>
Colusa Unified²	1,191	1,258	1,289	8.2
o Burchfield Elementary	379	422	442	16.6
o Egling Middle	400	410	441	10.3
o Colusa High	356	352	338	(5.1)
Maxwell Unified	280	283	298	6.4
o Maxwell Elementary	163	175	184	12.9
o Maxwell High	117	108	114	(2.6)
Pierce Joint Unified	834	854	897	7.6
o Arbuckle Elementary	406	392	422	3.9
o Grand Island Elementary	80	84	86	7.5
o Johnson Junior High	150	148	140	(6.7)
o Pierce High	198	230	249	25.8
Williams Unified	509	567	556	9.2
o Williams Elementary	231	220	211	(8.6)
o Williams Middle	137	201	205	49.6
o Williams High	141	146	140	(0.7)
COLUSA COUNTY SUPERINTENDENT'S OFFICE JURISDICTION³	2,916	3,062	3,136	7.5
Indian Valley Elementary ⁴	N/A	N/A	30	--
Princeton Joint Unified ⁴				
o Princeton Elementary	N/A	N/A	121	--
o Princeton High	N/A	N/A	71	--

N/A = not available

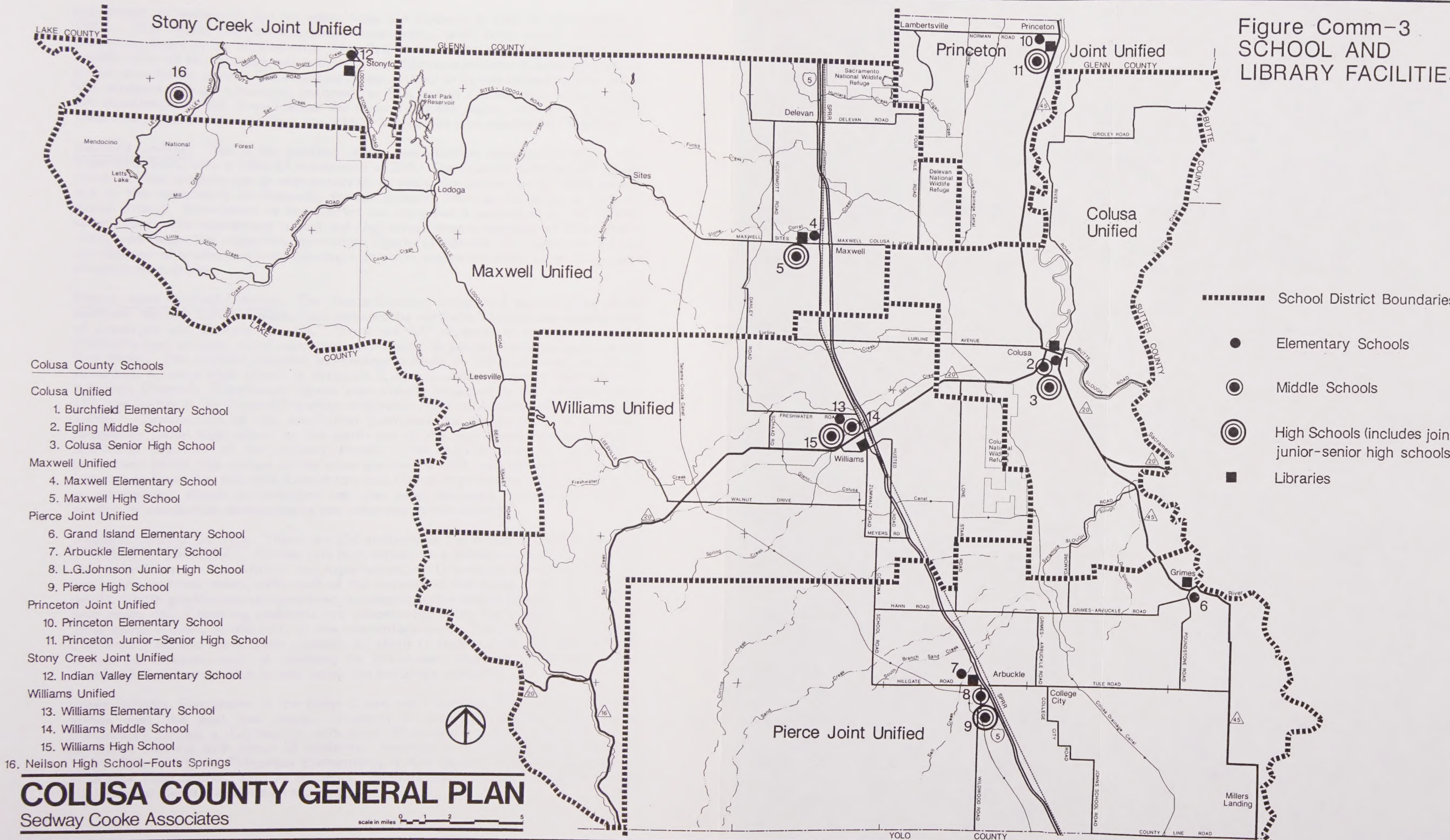
¹Excludes Our Lady Of Lourdes, a private school in Colusa which enrolled 104 students in Grades K-8 in 1988-89.

²includes personalized instruction center

³includes Clinton B. Nielson High and special education program; excludes Princeton and Indian Valley

⁴Schools are under the jurisdiction of the Glenn County Superintendent's Office

Figure Comm-3
SCHOOL AND
LIBRARY FACILITIES



has leaped 40 percent in just six years, from 314 students in 1981 to 442 students in 1987. The result has been crowded classrooms, with total school enrollment exceeding capacity by 50 students. The district has added a portable classroom to handle some of the increase and will require additional portables or building space as future enrollment grows. The situation is less critical at Egling Middle School, where 441 students occupy a building designed for 480, and at Colusa High School, where the enrollment of 338 is well below the capacity of 630 pupils. However, as Burchfield students move on to Egling, the Middle School will also experience crowding.

Maxwell Unified. This is the smallest of the four districts managed by the County Superintendent, with a 1986-87 enrollment of 298. The District contains 399 square miles and has two schools: an elementary (K-8) and a high school (9-12). Both schools are in the community of Maxwell, though students from as far away as Century Ranch attend. Enrollment in the district has increased 6 percent since the 1984-85 school year. The elementary school and high school have a capacity of 300 students each, well below the respective enrollment figures of 184 and 114. However, the age distribution of students is very uneven, with some grades enrolling three times more students than others.

Pierce Joint Unified District. The Pierce District covers 435 square miles in the southern third of Colusa County, and includes the northern Yolo County communities of Dunnigan and Zamora as well. There are 897 students in attendance at the District's four schools, which represents a dramatic 34 percent increase over the last five years. The District includes elementary schools in Grimes (Grand Island) and Arbuckle, a junior high school in Arbuckle (Lloyd G. Johnson), and a high school in Arbuckle (Pierce). Enrollment figures were clearly impacted by the construction of 120 new homes in the Almond Paradise subdivision north of Arbuckle during the early 1980s. Construction of the subdivision prompted the development of a 6-room temporary junior high school on the south end of the high school campus, creating additional capacity at the primary school. The District plans to construct a permanent junior high school on the same site before 1990, and has recently received renovation funds for Arbuckle Elementary and Pierce High School. The possibility of an elementary school in Dunnigan has also been discussed, particularly since a number of residential developments are underway in the vicinity.

Williams Unified District. There are 556 students in the Williams Unified District, attending an elementary, middle, and high school on a combined campus within the city of Williams. The District has experienced an 11 percent enrollment increase during the last two years, with most of the increase at the lower grade levels. As a result, fourth grade students have been reassigned to the Middle School, which is only four years old. Crowding problems are exacerbated when the migrant farmworker labor camp is open, particularly at the elementary level. The 211 pupils at Williams Elementary exceed the school's capacity by about 11 students, and the Middle School is just 35 students short of reaching its 240-student capacity. The High School enrolls 140 students, which is well below the building's capacity.

Other Schools. Enrollment in the Stony Creek and Princeton Districts has remained stable over the past few years. Students in Stonyford attend Indian Valley Elementary School, a K-8 facility with about 30 students, or Elk Creek High School (in Glenn County) with about 20 students. Students in Princeton and southeastern Glenn County attend Princeton Elementary, a K-8 facility with 121 students, or Princeton High School, with 71 students. Both of these schools can accommodate additional students without overcrowding.

Colusa County also manages Fouts Springs Boys Camp (Clinton B. Nielson High School), located within the Mendocino National Forest. The Camp was established to rehabilitate and educate juvenile boys that have committed minor crimes and are on probation. Enrollment was 41 students in 1986-87. The County also operates a special education program with students attending classes at Burchfield, Williams, and Arbuckle Elementary Schools, and at Johnson, Egling, and Williams Middle Schools.

Our Lady of Lourdes, a private school in Colusa, enrolls 104 students in Grades K-8 (1988-89). A pre-school associated with Our Lady of Lourdes enrolls 45 students.

Present and Future Needs

Colusa County Schools face the challenge of providing quality academic and vocational training with diminishing financial resources. Demand for increased vocational training, ESL (English as a Second Language), and college preparatory programs have placed the county's smaller schools in a difficult position. In some cases, there are simply not enough students to make these programs viable. The possibility of an all-county high school has been explored--and rejected--by virtue of its high cost and impact on the identity of the county's rural communities.

In response to the problem of crowded classrooms, the Pierce and Maxwell Districts have adopted school impact fees of \$1.50/square foot for residential development and \$0.25/square foot for non-residential development. Similar fees have been adopted by the Colusa and Williams Districts. The School District has also explored the possibility of keeping schools open year-round on staggered schedules to maximize the use of classroom space. Colusa Unified is also considering the construction of a second elementary school to relieve crowding at Burchfield and accommodate future growth in the city.

County population growth will create the need for new school facilities in some communities and additional classroom space in other communities. More detailed projections of enrollment in each district will be required to determine the exact need for new schools. A brief look at the population projections in the Community Plan Element indicates that Grimes, Princeton, and Stonyford will not require major new facilities in the next two decades. New facilities or additions will be needed in Arbuckle, Colusa, Maxwell, and Williams.

The Colusa and Williams Districts will each require an additional elementary school by the year 2010, and the Williams District may also need to expand the middle school or redistribute grades between the middle school and the new elementary school. The Pierce District is already planning the construction of a permanent junior high school; additions to the elementary school will also be required before the year 2010. The Maxwell District will need to expand the existing elementary school, but should have adequate capacity at the high school through the year 2010.

Although the future land use maps in the Community Plan Element do not show future school sites, the maps may be used as a guide for locating future schools. Since most residential development in Colusa and Williams is planned to the south of the urban area, new elementary schools also should be located in these areas. School sites should either be purchased by the district or dedicated to the district as a condition of approval for large residential developments.

Policies

- ED-1 The sharing of resources between small town schools should be promoted so that programs which are infeasible at a school because of low enrollment may become possible.
- ED-2 All proposed developments which could have a significant effect on school enrollment should be referred to the school district for review and comment.
- ED-3 Future schools should be on sites that are easily accessible to cars, bicycles, and pedestrians; schools should be located within the residential areas that they serve.
- ED-4 Cooperative planning arrangements should be made between the County Department of Planning and Building and the local school districts for the exchange of data and the development of school facility plans.
- ED-5 Plans or programs which would result in the closure of small town elementary schools should be discouraged. The existing community schools in Grimes, Princeton, and Stonyford should be maintained.

LIBRARIES

System Profile

The County libraries provide books, periodicals, newspapers, and information, and offer a range of recreational, cultural, and educational programs to Colusa County residents. Although only one of the libraries has a community meeting room, the libraries serve as community gathering places and are a focal point in many of the county's small communities. In towns like Grimes and Princeton, the libraries make an important contribution to the community's identity. The library system is part of a 13-county circulation network, providing access to resource materials throughout northern California.

The library system includes a main facility at Colusa, and satellite facilities in Arbuckle, Grimes, Maxwell, Princeton, Stonyford, and Williams. The system has 86,683 books, allocated between the libraries as follows:

<u>Library</u>	<u>Number of Books</u>
Arbuckle	10,886
Colusa	38,118
Grimes	6,291
Maxwell	9,583
Princeton	9,447
Stonyford	1,485
Williams	10,603

There are also over 30,000 other materials in the library, including audio, video, and microfiche materials. The total amount spent on library services in 1986 was \$340,000.

A number of the county's libraries--namely Maxwell, Williams, and Arbuckle--have severe space shortages and obsolete equipment. These libraries have seen circulation grow by as much as three times without any building expansion. In Williams, this has meant that some library programs must be held in City Hall because there is simply not enough room in the library. In Stonyford, the library is outside of town and is not convenient for many of its patrons. The community would like to remodel the old town hall and incorporate a new library and senior citizen center in the refurbished buildings. In Colusa, the 22-year old library building is shared by the County Superintendent of Schools. If the Superintendent's office is relocated, the library may have the chance to expand into the vacated space.

Most of the library buildings face the problem of inadequate electrical systems. As equipment is modernized and computers are installed, electrical systems will have to be upgraded accordingly. Some of the buildings must also be made wheelchair-accessible, particularly where they serve as election polling places.

Like other county departments, the library system suffers from a shortage of funds for capital improvements, materials acquisition, and operation. Because of the county's small population, the libraries find it difficult competing with other California counties for funds. Moreover, the library budgets fluctuate with the county's general fund, which varies widely depending on property values and economic conditions in the county. When agricultural and gas prices drop, the library usually suffers.

Patronage at the libraries has been increasing steadily and will continue to grow during the coming years. Video lending has proven to be very popular, and special reading programs have attracted both children and their parents. In the near future, the County hopes to enhance ties between local libraries and libraries at Yuba College and Chico State. They hope to continue to expand the genealogy section of Colusa's library, which already contains a wealth of information on the county's early settlers and homesteads. Other major objectives of the library system are to establish an automated circulation system, to provide a wider range of bilingual resources, and to increase the availability of microcomputers and typewriters for public use.

The combination of population growth and increased discovery of the resources available in the libraries will create a need for additional space during the next 20 years. In some cases, building additions may be needed. If state funding for construction becomes available, new libraries may be a possibility for the larger communities. The greatest increases in demand will be in Colusa, Williams, Arbuckle, and Maxwell, where the combined population may double by the year 2010.

Policies

- LIB-1 If new libraries are proposed in any Colusa County community, their locations should be in the downtown areas rather than on the outskirts of town. This will support the objective of keeping downtown the center of community activity and culture.
- LIB-2 Investment in new equipment and facilities for libraries should consider both current needs and projected growth patterns.
- LIB-3 The County should encourage and support efforts which will increase private donations and State funding for library operation and maintenance, as well as new construction, renovation, and equipment acquisition.

- LIB-4 Programs or events which promote the library's role as a community gathering place should be encouraged.

HEALTH CARE

System Profile

Colusa Community Hospital is the only general and acute care hospital in the County. Patients requiring more comprehensive care generally go to Enloe Hospital in Chico, to Woodland, to UC-Davis, or to the Sacramento Medical Center. Colusa Community Hospital was built in the early 1970s, replacing an older hospital building that is now used for administrative storage and doctor's offices. While the new building is in excellent condition and has few facility problems, most of the old building will require substantial remodeling if it is ever reused.

The hospital has 56 licensed beds, with 48 beds available at any given time. The average occupancy rate, based on 48 beds, is 27 percent. There are no plans for expansion, as there is no perceived need to increase the volume of in-patient care. However, the hospital is promoting out-patient care services such as same-day surgery, radiology, cardiovascular exams, and stress tests. The hospital has complete obstetric and maternity services, and has full orthopedic surgery facilities.

The one licensed nursing home in the county--Valley West--is located in Williams. The hospital in Colusa has 6 "swing beds" which can be transferred from their acute care designation to a skilled nursing designation, should they be required for that purpose. On an average day, there are usually two beds used for skilled nursing care. Although the county plans no additional nursing homes or health care centers at this time, a private nursing home has been discussed in Colusa. A proposal has also been made to double the size of the Valley West convalescent home.

Policies

- HC-1 Colusa County should support private development of congregate care and nursing home facilities in the communities of Arbuckle, Colusa, Maxwell and Williams.
- HC-2 As funding permits, options for re-using or demolishing the abandoned county hospital building should be explored.



Housing Element

THE HOUSING ELEMENT

"The farming community in this vicinity is in a flourishing condition--good houses, good barns, and good fences--with the greatest average number of wealthy men of any vicinity in the valley."

Will Green
History of Colusa County, 1880

ORGANIZATION OF THE HOUSING ELEMENT

The Housing Element of the General Plan is concerned with the future provision of adequate housing for existing and future Colusa County residents of all age, race, religious, economic, and physical capability groups. The Element responds to the statewide goal that decent, affordable housing and a suitable living environment be provided for every California family. As part of this Element, the State requires that specific housing production objectives be developed and that a five-year action program be developed to respond to these objectives.

The Element begins with an analysis of housing needs based on county demographic characteristics. These needs are compared with the housing supply to determine the current level of unmet need in the County. The analysis considers recent development trends, affordability, tenure, and the need for housing rehabilitation. Housing needs are then projected through the years 1993 and 2010 to determine the need for residential land and for public assistance in the future. Constraints to housing production, such as inadequate sewer and water capacity, are also evaluated.

Housing issues are addressed through a series of housing policies and through production and rehabilitation targets. Possible programs to increase the supply of affordable housing are presented at the end of this Element. Included is a schedule of actions to implement the policies and achieve housing goals and objectives.

RELATIONSHIP TO OTHER PLANS AND PLAN ELEMENTS

1983 TRI-COUNTY HOUSING ELEMENT

This Element serves as an update to the 1983 Housing Element for Colusa, Glenn, and Tehama Counties prepared by the Tri-County Area Planning Council. That plan was adopted by the ten jurisdictions affected and has served as Colusa County's Housing Element for the last five years. It included a determination of Colusa County's "fair share" of the Tri-County region's housing needs and set targets for housing production and rehabilitation over the period 1983-1989. However, the Element was based mostly on 1970 Census data and treated Colusa County in a very general way since its focus was a three-county region.

This update to that study uses 1980 Census data and 1987 data from the Department of Finance and State Department of Housing and Community Development. It deals specifically with Colusa County, presenting data both for the unincorporated areas and for the cities of Colusa and Williams.

Findings of the 1983 Tri-County Element

The key findings of the 1983 Element were that:

- (1) Most of the housing in the County is produced by the private sector. The public sector's principal role in housing should be to support the private sector in its homebuilding activity by minimizing regulatory, permitting and processing constraints.
- (2) The private sector alone cannot fully meet the county's housing needs. Problems of overpayment among low-income households, inadequate housing opportunities for the elderly and handicapped, and housing deterioration exist, and these problems can only be resolved with public assistance.
- (3) Because staff resources are limited, the County and cities of Colusa and Williams should pursue only those state and federal programs where the likelihood of funding is greatest.
- (4) Manufactured housing will become an increasingly important component of the county's affordable housing stock. County and city regulatory codes should not preclude manufactured housing development.
- (5) Migrant farmworker housing is inadequate in the Tri-County area. However, the problem is much less severe in Colusa County than it is in Glenn and Tehama Counties.
- (6) The problem of overcrowding decreased between 1970 and 1980 as household sizes declined.

Follow-Up: Have Tri-County Housing Goals Been Achieved?

This section compares the goals and objectives of the 1983 Tri-County Element with what has actually been accomplished over the past few years. Where appropriate, differences between what was projected and what was actually achieved are noted.

Since 1983, demographic and economic patterns have not changed substantially in the Tri-County area. In future years, however, a re-evaluation of the fair share allocation may be needed, since Colusa County is increasingly being impacted by housing demand from the Sacramento and Bay Area regions rather than the Glenn-Tehama County area.

Several important measures have been taken during the 1980s to address the county's unmet housing needs and to encourage affordability. These are:

- o The Pioneer Valley and Kings Manor subdivisions were developed in the city of Colusa under the FmHA 502 self-help housing program. The projects included

133 single family homes. The remaining lots within the subdivisions are being developed now with duplexes or fourplexes.

- o The Almond Paradise subdivision was developed in Arbuckle in 1981-83 under the FmHA 502 program. The project included 120 owner-assisted single family homes.
- o In 1980, a 12-unit assisted-rental project was built in Maxwell under the FmHA 515 program.
- o In Williams, 16 assisted-owner units were built under the FmHA 502 program in 1984.
- o In 1983, 20 homes were rehabilitated in Williams with public assistance.
- o The county received a Community Development Block Grant for housing rehabilitation in Maxwell in 1983; 23 homes were rehabilitated with the funds.
- o In Maxwell, 20 single family homes were built in 1985-86 using the FmHA 502 program.
- o Colusa County and the cities of Williams and Colusa have consistently applied for CDBG grants for housing rehabilitation and infrastructure improvements.
- o Several projects which could add to the supply of affordable housing have been proposed, including a 117-lot single family home subdivision in Williams, a 9-lot housing development in Grimes, a 40-unit apartment complex in Arbuckle, a 48-unit apartment complex in Arbuckle (two 24-unit phases), and a 104-unit single family home or mobile home development in Maxwell. At this time, it is not known whether developers of these projects will apply for public assistance.
- o Several proposals to construct housing for senior citizens have been made (although none have materialized at this time).
- o Publicly assisted housing accounted for approximately 50 percent of the housing built in Colusa County between 1981 and 1986.
- o Williams passed a manufactured housing ordinance allowing manufactured homes in any single family zone, provided certain design criteria are met. (The city of Colusa and unincorporated area already permit manufactured housing within all single family zones).
- o Several planning studies have been undertaken addressing locations for future residential development. These studies included an area plan for Stonyford-Lodoga, and sphere of influence studies for Colusa and Williams.
- o The new general plan has been prepared, addressing housing issues in each of the eight plan elements. The plan encourages residential development in those areas which are best suited for housing based on considerations of natural factors and urban services.

Relationship of Tri-County Housing Targets to Actual Construction Trends

The Tri-County Housing Element indicated that no new assisted owner housing would be needed in Colusa County during the period 1982-1985 because of the large amount of self-help housing then under construction. Nearly 300 owner-assisted homes have been built in the county since 1980, surpassing the Tri-County Element's estimate of Colusa County's "fair share" of the region's affordable housing need.

The Tri-County Element set targets for housing rehabilitation assistance at 7 units per year in the unincorporated area, 3 per year in the city of Colusa, and 1 per year in the city of Williams. These targets have been met in the county, but have not been achieved in Colusa. The city of Colusa was unsuccessful in its 1987 application for a CDBG grant, and has not been able to secure the funds needed for a successful rehabilitation program. Likewise, the county was unsuccessful in its 1985 CDBG application for housing rehabilitation in Arbuckle. Both the city and county will reapply for such funds in the future.

The greatest housing shortfalls have been in assisted rental units. The Tri-County Element set targets of 5 assisted rental units per year in the unincorporated area, 7 units in the city of Colusa, and 2 units in the city of Williams. No assisted rental units have been built since 1982, and none have been proposed at this time. Assisted rental housing projects are strongly encouraged in the policies of the new housing element. The lack of rental projects during the past five years is symptomatic of a statewide slump in the rental housing industry that only now appears to be subsiding.

RELATIONSHIP OF THE HOUSING ELEMENT TO CITY HOUSING ELEMENTS

There are strong relationships between the County Housing Element and the Housing Elements of the cities of Williams and Colusa. Since 75 percent of land designated for urban residential use is within the spheres of influence of Colusa and Williams, each city will need to cooperate in implementing the county housing program. Williams has a current (1986) Housing Element; it is consistent with the County Element and has been used as a data and policy source for the County general plan. The city of Colusa does not have a current Housing Element and will need to prepare one as part of its general plan update.

CITIZEN INPUT

Citizen input regarding local housing needs was received during the preparation of the 1983 Plan through a series of public meetings in Williams and Colusa. Community input resumed in 1986 and 1987 as part of the overall General Plan Update. As stated in Chapter I of the General Plan, a 60-person committee made up of representatives from each community in the county has developed, reviewed, and refined the goals, objectives, and policies of this plan. Additionally, "town meetings" were held in Maxwell and Colusa to, among other things, solicit input on key housing issues and housing policies. These meetings were publicly advertised in the Colusa Sun Herald and were open to all members of the community. Public hearings have also included Colusa County Planning Commission and Board of Supervisor meetings.

As mentioned in Chapter One, alternative land use plans were posted at the County Fair in July, 1987, draft land use plans were posted at all libraries and post offices for two weeks in October, 1987; and the Colusa Sun Herald ran a four-part feature story on the general plan proposals during September 24-29, 1987. Over 15 Planning Commission and Board of Supervisor public meetings were held following submittal of the Plan in January, 1988.

HOUSING NEEDS ANALYSIS

COUNTY DEMOGRAPHICS

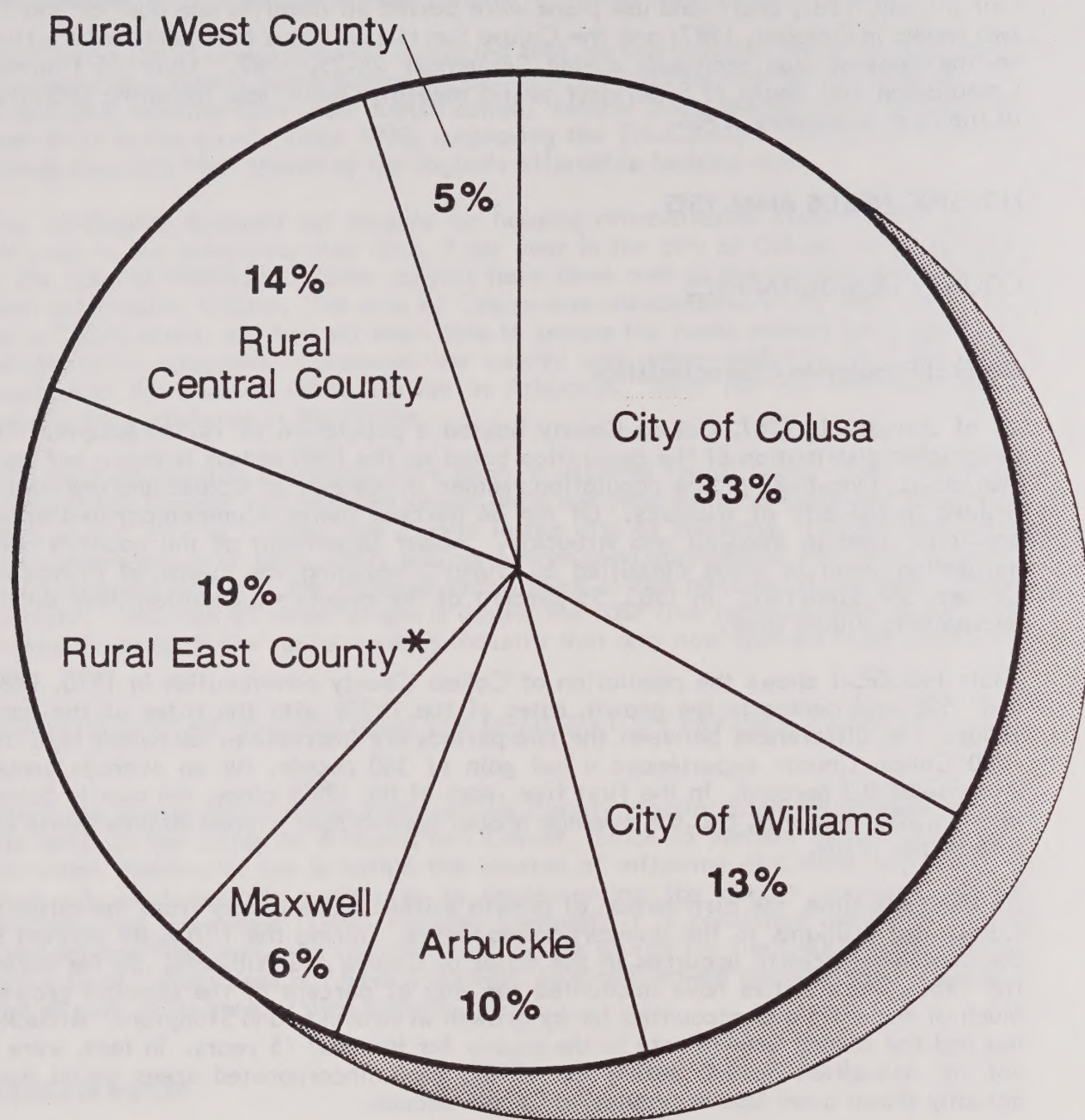
General Population Characteristics

As of January 1, 1987, Colusa County housed a population of 14,960 people. The geographic distribution of the population based on the 1980 census is shown in Figure HOUSE-1. One-third of the population resided in the city of Colusa and one-eighth resided in the city of Williams. Of the 56 percent living in unincorporated areas, one-third lived in Maxwell and Arbuckle. About 38 percent of the county's total population lived in areas classified as "rural", including the towns of Princeton, Grimes, and Stonyford. In 1985, 95 percent of the county's population lived on the Sacramento Valley floor.

Table HOUSE-1 shows the population of Colusa County communities in 1970, 1980, and 1985 and contrasts the growth rates of the 1970s with the rates of the early 1980s. The differences between the two periods are impressive. Between 1970 and 1980 Colusa County experienced a net gain of 360 people, for an average annual increase of 0.3 percent. In the first five years of the 1980s alone, the county gained nearly 1,800 residents, and the average annual growth rate jumped to nine times the rate of the 1970s.

At the same time, the distribution of growth shifted dramatically from the cities of Colusa and Williams to the unincorporated areas. During the 1970s, 88 percent of the population growth occurred in the cities of Colusa and Williams. So far during the 1980s, these cities have accounted for only 42 percent of the county's growth. Much of the shift was accounted for by growth in Arbuckle and Stonyford. Arbuckle has had the fastest growth rate in the county for the past 15 years. In fact, were it not for Arbuckle's growth during the 1970s, the unincorporated areas would have actually shown a net loss in population for the decade.

Table HOUSE-2 reviews Colusa County's population growth over the last seven decades. The county has historically been one of the slowest growing areas in the state of California. Population actually declined during the 1930s, and grew at an average rate of less than 40 people a year during the 1950s, 1960s, and 1970s. Perhaps the most interesting observation that can be made about Table HOUSE-2 is the unprecedented surge in growth that has occurred in Colusa County since 1980. Never in the last 70 years has the county sustained an annual growth rate as strong as the rate of the 1980s.



* Boundary between Rural East and Rural Central Areas is Colusa Drainage Canal

Figure HOUSE-
1980 POPULATION DISTRIBUTION

Table HOUSE-1: Population of Colusa County Communities

	Year			Percent Change	
	1970	1980	1985 ¹	1970-80	1980-85
City of Colusa	3,842	4,075	4,610	2.9	13.8
City of Williams	1,571	1,655	1,760	6.3	13.1
Incorporated Total	5,413	5,730	6,370	5.8	11.2
Arbuckle	1,037	1,306	1,725	25.9	32.1
Maxwell	750	750	850	0	13.3
Rural East County	2,539	2,534	2,800	(0.2)	10.5
Rural Central County	2,144	1,866	2,000	(12.9)	7.2
Rural West County	547	605	800	10.6	32.2
Unincorporated Total	7,017	7,061	8,175	0.6	15.8
County Total	12,430	12,791	14,550	2.9	13.8

¹ figures for unincorporated area approximate and based on the proportion of building permits issued in each area between 1980 and 1985

Table HOUSE-2: County Population Trends, 1920-1986

<u>Year</u>	<u>Population¹</u>	<u>Increase or Decrease</u>	<u>Percent Change</u>
1920	9,270	--	--
1930	10,258	+968	+10 %
1940	9,788	-470	-5 %
1950	11,651	+1,863	+19 %
1960	12,075	+424	+4 %
1970	12,430	+355	+3 %
1980	12,791	+361	+3 %
1986	15,000	+2,209	+17 %

Average Annual Growth Rate, 1920-1980: 0.6 %

Average Annual Growth Rate, 1980-1986: 2.8 %

(1) Based on U.S. Census Data for 1920-80; California Department of Finance for 1986.

Table HOUSE-3: Population Trends, Surrounding Counties¹

<u>County</u>	<u>1970 Pop.</u>	<u>1985 Pop.</u>	<u>Percent Increase</u>
Colusa	12,790	14,700	15 %
Yolo	91,788	125,000	36 %
Lake	19,200	48,700	153 %
Sutter	41,935	58,900	40 %
Yuba	44,736	53,100	19 %
Butte	101,969	165,200	62 %
Sacramento	634,373	889,800	40 %
Glenn	17,521	23,600	35 %

(1) Based on U.S. Census Data for 1970; California Department of Finance for 1985.

Although the county's recent growth has been significant, Colusa County still lags well behind neighboring counties both in its rate of growth and in absolute numbers. Table HOUSE-3 shows the 1970-85 population change in Colusa County and six adjoining counties. There are many indications that a more rapid growth rate can be anticipated during the next 25 years. The continued migration of retirees into the region, the rising cost of housing and land in the Sacramento and San Francisco Bay areas, and the attractiveness of the county's rural lifestyle will fuel the county's growth during the future. Colusa County is one of the few places in California that is both easily accessible to large urban centers and overwhelmingly rural and agricultural in character.

There are three components of population growth in the county; births, deaths, and migration. The sum of births and deaths is the **natural increase**, while the sum of those moving into the county and those moving out is the **net migration**. Between 1980 and 1986, net migration was generally larger than the natural increase. Births during the 6-year period averaged 266 per year and deaths averaged 136 per year, leaving an average natural increase of 130 people per year. Net migration averaged 220 people a year, but was erratic from year to year. For instance, 445 more people moved into Colusa County than out in 1981-82, but 118 more people moved out of the county than in during 1983-84.

Household Characteristics

The 1980 census reported that average household size in the county was 2.69, nearly the same as the statewide average of 2.68. There was some variation within the county. Arbuckle contained the highest number of persons per household (2.88) and Williams contained the lowest (2.64). Within owner-occupied units, the median household size was 2.30. After a long period of decline, the average number of persons per household began increasing in the 1980s, rising to 2.78 countywide as of January 1, 1987. Household size increases have been about the same in the incorporated and unincorporated areas. The increases are the result of births during the early 1980s and an influx of families with children. This trend is likely to level off in the future, given the influx of retirees expected in Colusa County during the coming decades.

There were 5,313 households in the county in 1987, compared to 4,690 households in 1980 and 4,136 households in 1970. The figures include the cities of Colusa and Williams, where the combined number of households grew from 1,765 in 1970 to 2,128 in 1980, and 2,373 in 1987. Countywide, the number of households grew by 1.3 % during each year of the 1970s. The rate was considerably higher than the population growth rate for this period due to declining household sizes. Households grew at 1.6 percent annually in the 1980s, this time lower than the population growth rate due to growing household sizes.

The changes in household size have several implications for housing demand. Most significantly, the growing number of large families suggests a strong demand for large, affordable single family homes.

Family Characteristics

Family characteristics are summarized in Table HOUSE-4. Of the 3,519 families in Colusa County in 1980, 12 percent were headed by single parents. Of this number, 67 percent of the families were female-headed, and 43 percent were female-headed with children under 18. Of the nearly 3,100 married couples in the county, about 48 percent had children under 18 living at home.

The single-parent households were concentrated in the cities of Williams and Colusa, where they represented 18 percent of all families. There were 146 female-headed households with children in the cities in 1980, compared to 40 in the unincorporated area.

Income Characteristics

As of the 1980 census, median household income in Colusa County was \$15,379, compared to \$18,243 statewide. The number of households in 18 income brackets in Colusa County (as of 1980) is presented in Table HOUSE-5. Income in the State rose by 48 percent between 1980 and 1985; if this growth rate were applied to Colusa County, the median household income in 1985 would have been \$22,760.

At the time of the 1980 Census, there were 309 families in the county below the poverty level (\$12,831 a year) or 8.8 percent of all families in Colusa County. Seventy percent of these families included children under 18 living at home. Of these families, 86 received social security income and 123 received other forms of public assistance income. There were also 321 unrelated individuals in households below the poverty level, bringing the total number of sub-poverty level households to 10.7 percent of the county total.

Housing is often a compelling need for these households, many of which are single-parent families with children. In fact, about 30 percent of the families below the poverty level were female-headed with no husband present, and 87 percent of these women had children under 18 living at home. Looked at another way, 40 percent of all female-headed households with children were below the poverty level in 1980. As Table HOUSE-6 indicates, these families were concentrated in the cities of Colusa and Williams.

Persons over 65 also composed a major segment of the low-income population, with the incidence of poverty heavily concentrated in non-family elderly households. Table HOUSE-7 shows the relationship between age and poverty for both families and unrelated individuals. Interestingly, none of the elderly families in the cities of Colusa and Williams were below the poverty level in 1980, and just 8 percent of the elderly families in the unincorporated area were below the poverty level. The situation with households of unrelated elderly individuals was quite different. About 20 percent of the unrelated individuals below the poverty level were over 65. The statistics indicate a strong need for multi-family housing consisting of small, affordable units for one-person elderly households.

Households in Colusa County may be classified into income categories for purposes of determining housing needs. A four person household is assumed for the purposes of the definition. A **Very Low Income** household of four persons has an income not exceeding 50 percent of the actual median family income of the county (\$7,689 in 1980 dollars). A **Low Income** household of four persons has an income above the Very

Table HOUSE-4: Household Type and Presence of Children

<u>Cities of Colusa and Williams</u>					
	<u>Total</u>	<u>White</u>	<u>Black</u>	<u>Ind./</u> <u>Asian Span.</u>	
Married couple with children	665	450	0	40	196
Married couple without children	599	564	4	2	56
Male householder, no spouse, with children	40	40	0	0	1
Male householder, no spouse, without children	24	14	0	6	4
Female householder, no spouse, with children	146	109	10	12	15
Female householder, no spouse, without children	59	57	0	2	2
Non-family households	578	524	6	17	31

<u>Unincorporated Area</u>					
	<u>Total</u>	<u>White</u>	<u>Black</u>	<u>Ind./</u> <u>Asian Span.</u>	
Married couple with children	805	664	4	30	175
Married couple without children	1,014	911	6	17	123
Male householder, no spouse, with children	48	31	0	7	10
Male householder, no spouse, without children	31	26	0	0	11
Female householder, no spouse, with children	40	33	0	0	7
Female householder, no spouse, without children	48	32	0	7	16
Non-family households	600	563	13	7	24

<u>County Total</u>					
	<u>Total</u>	<u>White</u>	<u>Black</u>	<u>Ind./</u> <u>Asian Span.</u>	
Married couple with children	1,470	1,114	4	70	371
Married couple without children	1,613	1,475	10	19	179
Male householder, no spouse, with children	88	71	0	7	11
Male householder, no spouse, without children	55	40	0	6	15
Female householder, no spouse, with children	186	142	10	12	22
Female householder, no spouse, without children	107	89	0	9	18
Non-family households	1,178	1,087	19	24	55

Source: 1980 Census, State Census Data Center

Table HOUSE-5: 1980 Income Distribution of Colusa County Households

	<u>City of Colusa</u>	<u>City of Williams</u>	<u>Unincorpo- rated Areas</u>	<u>County Total</u>
\$0 - 2,499	76	22	102	200
\$2,500 - 4,999	115	69	248	432
\$5,000 - 7,499	183	49	182	414
\$7,500 - 9,999	146	77	214	437
\$10,000 - 12,499	163	54	209	426
\$12,500 - 14,999	64	52	261	377
\$15,000 - 17,499	135	49	228	412
\$17,500 - 19,999	104	29	174	307
\$20,000 - 22,499	86	33	181	300
\$22,500 - 24,999	51	33	88	172
\$25,000 - 27,499	56	27	115	298
\$27,500 - 29,999	89	12	42	143
\$30,000 - 34,999	69	45	112	226
\$35,000 - 39,999	69	15	100	184
\$40,000 - 49,999	54	22	146	222
\$50,000 - 74,999	19	13	137	169
\$75,000 or more	31	0	47	78
median	\$15,148	\$13,918	\$15,844	\$15,379

Source: 1980 Census, State Census Data Center.

Table HOUSE-6: Family Type and Poverty Status

	<u>Total Families</u>			<u>Families with Female Householder</u>		
	<u>Cities of Colusa/Williams</u>	<u>Uninc. Area</u>	<u>County Total</u>	<u>Cities of Colusa/Williams</u>	<u>Uninc. Area</u>	<u>County Total</u>
Above Poverty						
With Children	761	844	1,605	89	28	117
Without Children	633	972	1,605	52	34	86
Below Poverty						
With Children	120	98	218	57	21	78
Without Children	19	72	91	7	5	12

* * * * *

Table HOUSE-7: Age of Households by Family Status and Poverty Status

	<u>Families</u>			<u>Non-Families</u>		
	<u>Cities of Colusa/Williams</u>	<u>Uninc. Area</u>	<u>County Total</u>	<u>Cities of Colusa/Williams</u>	<u>Uninc. Area</u>	<u>County Total</u>
Below Poverty						
Householder 15-64	139	147	286	63	32	95
Householder 65+	0	23	23	51	55	106
Between 100-124% of Poverty						
Householder 15-64	54	80	134	6	18	24
Householder 65+	21	10	31	33	64	97
Above 125% of Poverty						
Householder 15-64	1,105	1,429	2,534	288	236	524
Householder 65+	214	297	511	137	195	332

Source: 1980 Census, State Data Center.

Low Income limit but less than 80 percent of the median income of the county (\$7,689-\$12,303). A **Moderate Income** household of four persons has an income between 80 and 120 percent of the county median (\$12,303-\$18,455). **Above Moderate** households have incomes exceeding 120 percent of the county median. For households with more or less than four persons, a factor of 0.7 per person is used to determine into which income group the household falls.

The number of Colusa County households falling into each category is presented in Table HOUSE-8. Figures for 1983 were provided by the State Department of Housing and Community Development (HCD), while estimates for 1987 are based on the assumption that the income distribution remained constant over the 1983-1987 period.

Projections for 1993 are also presented. These projections assume that the percentage of households in each income group will remain constant over the period 1987-1993. The projections also assume a household growth rate of 2 percent (somewhat higher in the cities and lower in the rural areas). This is consistent with the population projections and distributions that have been used as the basis for the other elements of the County General Plan.

The projections suggest that an increase of 343 low or very low income households is likely by the year 1993. The implications of this figure for housing need is discussed in a later section of this chapter.

Age Characteristics

The median age in Colusa County was 31.9 in 1985, up from 30.7 in 1970. During this same period, persons 65 years or older rose from 11.6 to 13.2 percent of the county total. Although more current statistics on age are not available, it appears that the increases in population have been at the youngest and oldest age cohorts during the 1980s. Colusa County's elderly population often have fixed incomes and are financially unable to rehabilitate their homes. Confronting high health care, food, and energy costs, some elderly families may not have sufficient income to afford decent housing. Of the 440 families receiving Supplemental Security Income in 1985, 188 were elderly.

Age projections prepared by the Department of Finance indicate that the average age in Colusa County will rise to 32.8 by 2000, but will drop to 31.0 by the year 2010. The projections suggest that, as in the recent past, the elderly and the very young will be the fastest growing segments of the population. Between 1985 and 2000, the number of people under 18 is projected to increase by 41 percent and the number over 64 is projected to increase 55 percent. Meanwhile, the 18-64 age group will grow by just 20 percent. The figures suggest that the housing needs of two groups--families with large numbers of children, and the elderly--will become more critical during the next two decades. The demand for low-cost single family homes and congregate care facilities will both increase in the future.

Ethnic Characteristics

The 1980 Census reported that 75.4 percent of the County's residents were White, 19.5 percent were Hispanic, 3.1 percent were Asian, and 0.5 percent were Black.

Table HOUSE-8: Household Distribution by Income Group

Income Group	Cities of Colusa/Williams				Unincorporated Areas				Total Colusa County			
	1983	1987	1993	% of Total	1983	1987	1993	% of Total	1983	1987	1993	% of Total
Very low	632	702	823	30	764	794	868	27	1,369	1,496	1,691	28
Low	457	507	595	21	623	647	707	22	1,080	1,154	1,302	22
Moderate	329	366	429	15	453	470	514	16	782	836	943	16
Above moderate	718	798	936	34	991	1,029	1,125	35	1,709	1,827	2,061	34
TOTAL	2,136	2,373	2,783	100	2,831	2,940	3,214	100	4,967	5,313	5,997	100

Sources: 1983 figures based on State HCD data; 1987 figures based on same percentage distribution applied to 1/1/87 Department of Finance Household Estimates; 1993 figures based on 2.7% annual household growth for the Cities of Colusa and Williams, and 1.5% annual household growth for unincorporated areas, in accordance with General Plan population projections and land use policies. Assumes income distribution remains constant.

Other ethnic groups, including Native Americans, made up 1.5 percent of the population. Of the 2,492 persons of Spanish origin, 90 percent were of Mexican origin. Ethnic variations between individual communities were significant. Arbuckle was 33 percent Hispanic in 1980, while the figures for Colusa and Williams were 20 percent and 19 percent. Countywide, the Hispanic population increased from 17.2 percent of the county total in 1970 to 19.5 percent in 1980.

Employment

Figure HOUSE-2 presents a profile of employment in Colusa County in 1972, 1980 and 1987. Agriculture is the staple of county's economy, directly accounting for one-third of all jobs, and providing the foundation for many support services and industries in other sectors of the economy. Many of the county's manufacturing, retail, and wholesale trade jobs exist to serve agriculture. Agriculture also provides seasonal employment to about 1,600 persons during the late summer and early fall.

Figure HOUSE-2 reveals several trends about the changing employment picture in Colusa County. First, job growth was much more substantial during the 1970s than it has been during the early 1980s. Over 1,000 jobs were created during the 1970s, far surpassing population growth and creating favorable economic times and low unemployment. During the 1980s, population growth has been much more rapid than job growth. Unemployment has risen dramatically, and many businesses have suffered. Hard economic times have heightened the need for affordable housing, particularly for those directly affected by the downturn in agriculture.

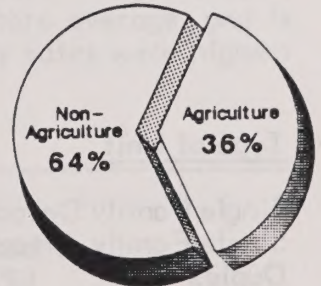
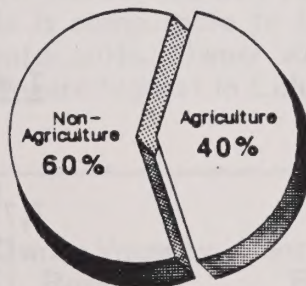
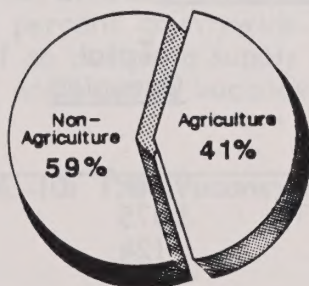
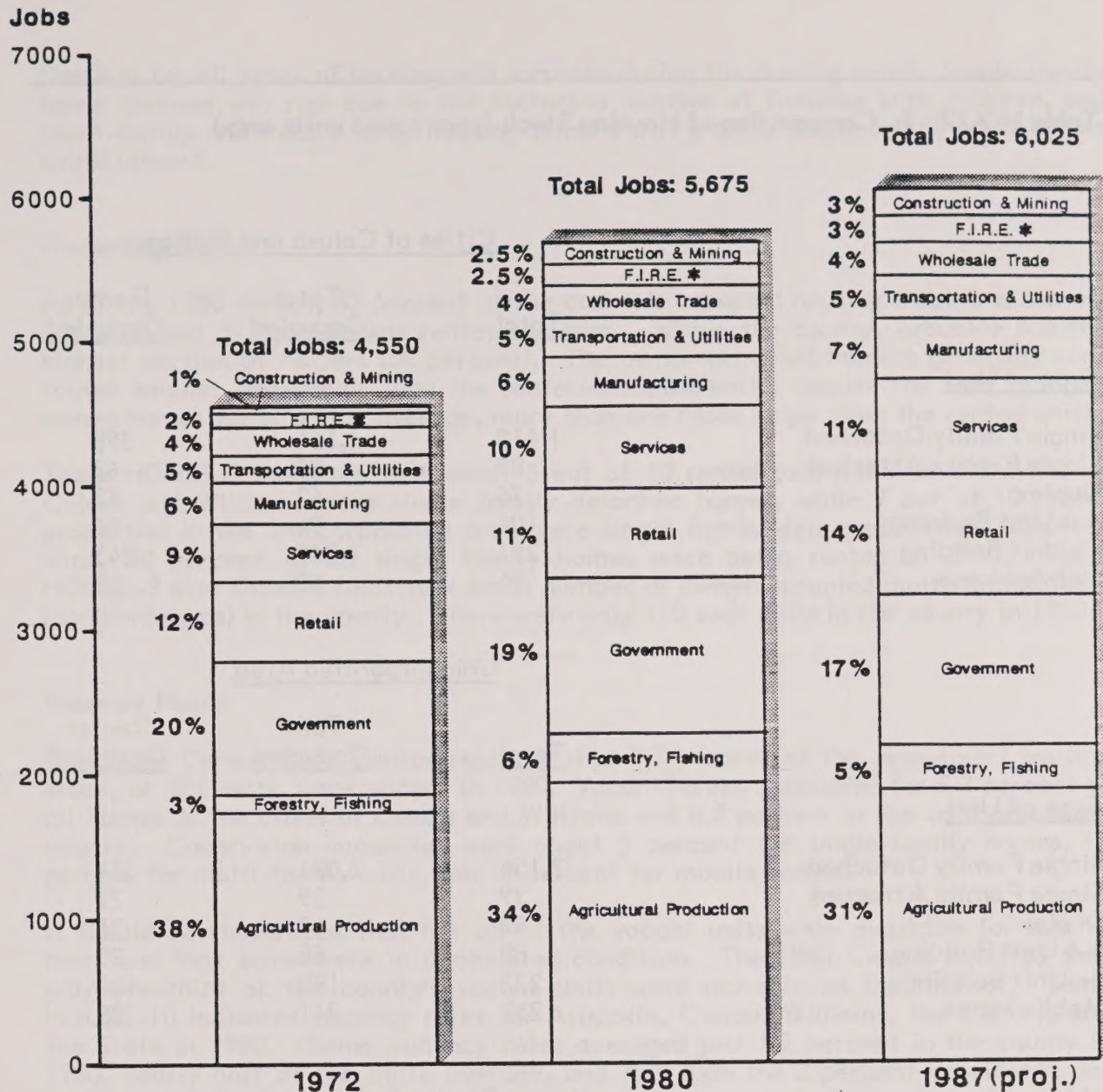
Although still the mainstay of the county's economy, the number of agricultural jobs has leveled off since 1980. Government employment has declined, while transportation, utilities, and wholesale trade employment has been stable. The only growth in the county's economy has been in retail trade, construction, services, manufacturing, and finance, insurance, and real estate. Even in these sectors, growth has been very sluggish during the 1980s.

COUNTY HOUSING CHARACTERISTICS

Type of Units

The U.S. Bureau of the Census reported that there were 5,081 housing units in Colusa County that were occupied year round and an additional 267 units that were seasonally occupied. About 45 percent of all units were in the cities of Colusa and Williams. Table HOUSE-9 shows that the year-round units included 3,773 single family detached homes (74 %), 128 single family attached homes (2.5 %), 127 duplex units (2.5 %), 706 apartment units (14 %), and 346 mobile homes (7 %).

Not surprisingly, the higher-density units were more prevalent in the cities of Colusa and Williams than in the unincorporated area. The two cities contained 562 attached or multi-family units in 1980, compared to 400 such units in the rural areas. This disparity has continued through the 1980s, with virtually no multi-family construction in the rural areas over the past 7 years. By contrast, mobile homes were more than twice as prevalent in the rural areas as they were in the urban (Colusa/Williams) areas. In both the cities and the unincorporated county, single family detached homes represented more than 70 percent of the total housing stock.



* F.I.R.E. = Finance, Insurance, and Real Estate

Figure HOUSE-2
COUNTY EMPLOYMENT PROFILE

COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

Table HOUSE-9: Composition of Housing Stock (year round units only)

<u>Cities of Colusa and Williams</u>			
<u>Type of Unit</u>	<u>Total</u>	<u>Total Occupied</u>	<u>Renter Occupied</u>
Single Family Detached	1,619	1,554	398
Single Family Attached	89	85	63
Duplex	76	63	52
3-4 Unit Building	106	94	86
5+ Unit Building	291	269	243
Mobile Home	94	69	3
<u>Unincorporated Area</u>			
<u>Type of Unit</u>	<u>Total</u>	<u>Total Occupied</u>	<u>Renter Occupied</u>
Single Family Detached	2,154	2,021	634
Single Family Attached	39	39	22
Duplex	51	47	35
3-4 Unit Building	88	58	39
5+ Unit Building	222	180	140
Mobile Home	252	211	38
<u>County Total</u>			
<u>Type of Unit</u>	<u>Total</u>	<u>Total Occupied</u>	<u>Renter Occupied</u>
Single Family Detached	3,773	3,575	1,032
Single Family Attached	128	124	85
Duplex	127	110	87
3-4 Unit Building	194	152	125
5+ Unit Building	513	449	383
Mobile Home	346	280	41

Source: 1980 Census, State Census Data Center

Demand for all types of housing will increase during the coming years. Single family home demand will rise due to the increased number of families with children, and multi-family and mobile home housing demand will grow as single family home prices spiral upward.

Ownership Status

As of the 1980 census, 63 percent of the county's occupied housing stock was owner-occupied and 37 percent was renter-occupied. Within the county, Arbuckle had the highest portion of renters (58 percent). The owner-occupied housing generally contained smaller households than the renter-occupied units, despite the fact that the owned homes were, on the average, more than one room larger than the rented units.

Table HOUSE-9 indicates that about 5 out of 10 rental properties in the cities of Colusa and Williams were single family detached homes, while 7 out of 10 rental properties in the unincorporated area were single family detached homes. County-wide, 30 percent of all single family homes were being rented in 1980. Table HOUSE-9 also shows a relatively small number of owner-occupied multi-family units (condominiums) in the county. There were only 110 such units in the county in 1980.

Vacancy Rates

The State Census Data Center reported that 7.7 percent of the year-round housing stock, or 391 units, were vacant in 1980. Vacant homes accounted for 6.2 percent of all homes in the cities of Colusa and Williams and 8.9 percent in the unincorporated county. Countywide vacancies were about 5 percent for single-family homes, 14 percent for multi-family units, and 19 percent for mobile homes.

It should be recognized that not all of the vacant units were available for sale or rent, and that some were in dilapidated condition. The 1980 Census reported that only one-third of the county's vacant units were actually on the market. Table HOUSE-10 indicates vacancy rates for Arbuckle, Colusa, Williams, the County, and the State in 1980. Owner vacancy rates averaged just 1.2 percent in the county in 1980, nearly half of the State average, and less than the 2 percent considered desirable to avoid artificial price inflation. Renter vacancy rates were more favorable, averaging 5 percent countywide. This is comparable to the State average, and is indicative of an adequate supply of rental units. Owner vacancy rates were highest in Arbuckle, while renter vacancy rates were highest in Colusa.

Table HOUSE-10: 1980 Vacancy Rates

	Owner Vacancy Rate (%)	Renter Vacancy Rate (%)
Arbuckle	2.6	5.5
Colusa	1.2	6.6
Williams	1.3	3.9
Total County	1.2	5.0
State of California	2.3	5.1

Source: 1980 Census.

Age of Housing Stock

The age of a community's housing stock is frequently used by federal and state governments to estimate the need for home improvement assistance. Throughout the county, older housing is in need of rehabilitation, insulation, and weatherization. Several public grant and loan programs consider the percentage of the housing stock built before 1940 as they determine eligibility for funds to undertake such improvements. Table HOUSE-11 indicates that about 25 percent of the county's housing stock predates 1940 and about 38 percent predates 1950. The percentage of older housing is slightly higher in the cities of Colusa and Williams, where 28 percent of the homes predate 1940 and 43 percent predate 1950.

Housing Value

The 1980 Census reported median home values for Arbuckle, Colusa, Williams, and Colusa County. These statistics, presented in Table HOUSE-12, indicate that home values were about half those of the state as a whole. Median house value was \$43,100 in Arbuckle and \$49,700 in the city of Colusa. As in the rest of the state, prices have inflated substantially since 1980. In the Sacramento area, home prices rose 39 percent between the 1980 Census and August, 1987. Applying a similar inflation rate to Colusa County would yield a median value of \$64,900 for 1987. The Colusa County Assessor's office suggested that median house value in 1987 was probably between \$54,000 and \$62,000. By contrast, median home prices in the nine-county Bay Area topped \$163,000 in 1986, while the statewide average for single family resale homes was nearly \$130,000.

Rents in the county were also about half the statewide average in 1980. Median monthly rent ranged from \$117 in Arbuckle to \$144 in Colusa, compared to \$253 statewide. A survey of advertised rental properties in the Colusa Sun Herald during mid-1987 indicated an average advertised rent of \$257. Although inflation has been significant since 1980, prices are still far below comparable properties in the San Francisco and Sacramento areas.

The discrepancy between prices in the county and nearby urban areas have two important implications for the future of the county's housing market. First, inexpensive housing will make the county increasingly attractive to commuters in the Sacramento and San Francisco metropolitan areas. Second, prices are likely to rise more rapidly as housing inflation in the county "catches up" with the rest of the state.

Condition of Housing

Of the nearly 5,100 year-round units in Colusa County in 1980, only 35 lacked complete plumbing facilities. Among the county's housing units, 70.5 percent had central heat, and 84.2 percent had air conditioning. About 47 percent of all year-round living units had three or more bedrooms, compared to 43 percent statewide. About 72 percent of the county's homes were connected to a public water system and 67 percent were connected to public sewer.

According to the 1980 Tri-County Housing Element for Colusa, Glenn, and Tehama Counties, 94 percent of the housing in the unincorporated area was structurally

Table HOUSE-11: Age of County Housing

<u>Year Built</u>	<u>City of Colusa</u>		<u>City of Williams</u> ¹		<u>Unincorporated Area</u> ²		<u>County Total</u>	
1980-87	263	(14%)	20	(3%)	654	(19%)	937	(15%)
1970-79	320	(17%)	101	(16%)	657	(19%)	1078	(18%)
1960-69	268	(14%)	102	(16%)	401	(12%)	771	(13%)
1950-59	299	(15%)	134	(21%)	520	(15%)	953	(16%)
1940-49	235	(12%)	103	(16%)	413	(12%)	751	(13%)
Pre-1939	531	(28%)	182	(28%)	815	(23%)	1528	(25%)

Notes:

¹Figure provided by State is inconsistent with actual building permit records showing a larger number of units built in Williams between 1980 and 1987.

²Figure provided by State is inconsistent with actual building permit records showing a smaller number of units built in unincorporated areas between 1980 and 1987.

* * * * *

Table HOUSE-12: Median Home Values and Rents, Colusa County, 1980

	<u>House Value</u>	<u>Rent</u>
Arbuckle	\$43,100	\$117
Colusa (City)	49,700	158
Williams	45,700	155
Countywide	47,000	144
State of California	84,500	253

Source: 1980 Census.

sound. Just over 5 percent was classified as "deteriorated" and less than one percent (24 homes) were classified as "dilapidated". Within the cities of Colusa and Williams, the figures were significantly higher. In Colusa, 19 percent of the housing stock was classified as "deteriorated" and 3.5 percent was classified as dilapidated, for a total of 370 units. In Williams, 8 percent was classified as "deteriorated" and 1 percent was classified as "dilapidated" for a total of 57 units.

Another way to measure substandard housing is to evaluate the degree of overcrowding in residential dwellings. Any dwelling with more than 1.01 persons per room is considered overcrowded by the U.S. Census Bureau. This condition applies to 6.4 percent of the housing in the county. Within the county, Arbuckle has the highest rate of overcrowding. In 1980, nearly 10 percent of its homes were considered overcrowded. In general, renter-occupied housing was more overcrowded than owner-occupied. Large families occupying small apartments present the most common instance of overcrowding.

Construction Trends

Tables HOUSE-13 and HOUSE-14 summarize construction activity from 1981 to 1986 in Colusa County based on building permit records for the period. The area in and around the city of Colusa accounted for nearly half of the new construction over the period, with 240 units built in the city and 59 units built in the unincorporated area. Arbuckle accounted for about 22 percent of the total, while the Williams area and Stonyford-Lodoga area each accounted for 12 percent of the total. Only 27 homes were built in Grimes, Princeton, Delevan, and College City during the period.

Countywide construction peaked in 1983 with the completion of the Almond Paradise subdivision in Arbuckle and the start of a large self-help housing development in Colusa. During the 1980s, these two subdivisions have dominated the new housing market, accounting for a surge in housing production in Arbuckle in 1981-1983 and in Colusa in 1983-1985. Outside of these time periods, housing growth rates were sluggish in most areas. Construction picked up in Maxwell toward the end of the period, and remained relatively strong in Stonyford-Lodoga throughout the period.

In the unincorporated areas, no permits were on record for multi-family housing during the period 1981-1986. Although some apartments and townhomes were built within the city of Colusa during the 1980s, multi-family housing has diminished proportionally to single family homes over the last 7 years. The corresponding growth in the county's elderly population suggests a shortage of multi-family housing may exist.

About 61 percent of the permits in unincorporated areas were for conventional single family homes, while 39 percent were for mobile or manufactured homes. Between 1981 and 1986, manufactured and mobile homes represented over 60 percent of all homes permitted in the Stonyford-Lodoga area, more than 70 percent of all homes permitted in Princeton and Grimes, and 100 percent of all homes permitted in College City.

Table HOUSE-13: Number of New Housing Units Permitted in Each Community, 1981-86¹

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986²</u>	<u>1981-86 Total</u>	<u>% of 1981-86 County Total</u>
City of Colusa	4	10	96	56	50	24	240	36.4
City of Williams	9	1	6	16	5	7	44	6.7
Unincorporated Colusa Vicinity	11	10	10	8	10	10	59	9.0
Unincorporated Williams Vicinity	9	6	6	5	4	4	34	5.2
Arbuckle Vicinity	29	64	26	11	9	5	144	21.9
College City Vicinity	0	0	1	0	2	0	3	0.5
Delevan Vicinity	1	2	1	0	0	1	5	0.8
Grimes Vicinity	3	1	3	0	1	0	8	1.2
Maxwell Vicinity	7	3	2	3	10	9	34	5.2
Princeton Vicinity ³	2	2	1	3	0	3	11	1.7
Stonyford-Lodoga Vicinity	<u>13</u>	<u>12</u>	<u>14</u>	<u>18</u>	<u>9</u>	<u>11</u>	<u>77</u>	<u>11.7</u>
COUNTY TOTAL	88	111	166	120	100	74	659	100.0 ⁵

County total includes 139 units of FmHA 515 assisted housing and 164 units of Self Help (FmHA 502) housing, accounting for 46 percent of the housing built during the period.

¹excludes demolition losses

²excludes last 3 weeks of December for unincorporated areas

³includes Lambertsville-Clarksville

⁴includes Sites and Leesville

⁵Percentages may not add to total due to rounding

Sources: County Building Permit Records; City of Colusa Planning Dept.; City of Williams Building Dept.

Table HOUSE-14: Type of Housing Permitted in Unincorporated Areas, 1981-86

	<u>Single-Family</u>	<u>Manufactured</u>	<u>Mobile Home</u>	<u>Multi-Family</u>
Unincorporated Colusa Vicinity	36	8	15	0
Unincorporated Williams Vicinity	19	11	4	0
Arbuckle Vicinity	111	24	9	0
College City Vicinity	0	2	1	0
Delevan Vicinity	2	1	2	0
Grimes Vicinity	2	3	3	0
Maxwell Vicinity	26	8	0	0
Princeton Vicinity	3	5	3	0
Stonyford-Lodoga Vicinity	30	39	8	0
Unincorporated Total	229	101	45	0
% of Unincorporated Area Housing	61%	27%	12%	0%

AFFORDABILITY

Housing Overpayment

At the time of the 1980 census, any household paying more than 25 percent of its gross income for housing (rental or ownership costs, plus utilities) was considered to be "overpaying." Because the Census Bureau does not calculate utility costs in its decennial survey, the extent of overpayment is usually underestimated. Even without utility costs considered, housing overpayment affected 34 percent of all renter households and 18 percent of owner households in Colusa County. The limit of overpayment was changed to 30 percent of total income in 1984, but census data showing new figures at this level will not be available until after the 1990 Census.

Overpayment is used to determine the need for new affordable homes in a community at a given point in time and the extent of public assistance needed in the local housing market. The incidence of overpayment is greatest among very low income renters and owners. These households frequently spend more than half of their incomes on housing. Table HOUSE-15 indicates that about 90 percent of the renters in Colusa County with annual incomes less than \$5,000 in 1980 were overpaying, while 50 percent of the owners in this income bracket were overpaying.

Overpayment drops off dramatically as income rises. In the \$5,000-10,000 bracket, 50 percent of all renter households in the county and 31 percent of all owner households were overpaying, and in the \$10,000-\$15,000 bracket, the figures were 22 percent for renters and 25 percent for owners. Overpayment affects less than 3 percent of renter households earning more than \$15,000, and 7 percent of owner households in this income group. In general, overpayment was more serious in the cities of Colusa and Williams than in the unincorporated areas.

Unmet Housing Need

Table HOUSE-16 presents the estimated unmet housing need as of 1980 based on the incidence of overpayment. The income brackets used by the census to calculate overpayment have been converted to the "very low," "low," "moderate," and "above moderate" categories used by the U.S. Department of Housing and Urban Development. The results indicate that there were 817 households with unmet housing needs in 1980. More than half were renters, and more than 60 percent lived in the cities of Colusa and Williams. The total included 461 very low income households and 183 low income households.

Typical Construction and Home Ownership Costs

The 1986 Housing Element for the city of Williams estimated that a typical single family 3 bedroom, 2 bath, 1200 square foot house could be built for \$57,700. These figures are typical of the county as a whole. City and county fees are relatively low, land is relatively inexpensive, and labor and material costs are generally lower than in nearby urban centers.

Table HOUSE-15: Cost of Housing as a Percentage of Income - Colusa County, 1980

	<u>Renters</u>					<u>TOTAL</u>
	<u>Rent as % of income</u>					
	<u>0-19%</u>	<u>20-24%</u>	<u>25-34%</u>	<u>35+%</u>	<u>Not Computed</u>	
<u>Colusa/Williams:</u>						
\$0 - 4,999	15	0	10	135	33	193
\$5,000 - 9,999	41	37	40	51	9	178
\$10,000 - 14,999	54	46	40	19	5	164
\$15,000 - 19,999	109	20	13	0	1	143
\$20,000 +	151	1	0	0	7	159
<u>Unincorporated Area:</u>						
\$0 - 4,999	9	7	13	89	17	135
\$5,000 - 9,999	27	24	17	20	5	93
\$10,000 - 14,999	86	44	8	0	24	162
\$15,000 - 19,999	109	20	13	0	1	143
\$20,000 +	151	1	0	0	7	159
<u>County Total:</u>						
\$0 - 4,999	24	7	23	224	50	328
\$5,000 - 9,999	68	61	57	71	14	271
\$10,000 - 14,999	140	90	48	19	29	326
\$15,000 - 19,999	228	24	13	0	26	291
\$20,000 +	225	1	0	0	14	240

continued . . .

	<u>Owners</u>					<u>TOTAL</u>
	<u>Owners' cost as % of income</u>					
	<u>0-19%</u>	<u>20-24%</u>	<u>25-34%</u>	<u>35+%</u>	<u>Not Computed</u>	
<u>Colusa/Williams:</u>						
\$0 - 4,999	30	4	2	30	1	67
\$5,000 - 9,999	136	31	29	61	0	257
\$10,000 - 14,999	98	18	7	21	0	144
\$15,000 - 19,999	135	16	2	12	0	165
\$20,000 +	401	36	25	10	0	462
<u>Unincorporated Area:</u>						
\$0 - 4,999	21	20	15	31	19	106
\$5,000 - 9,999	90	25	26	10	0	151
\$10,000 - 14,999	98	6	19	27	0	150
\$15,000 - 19,999	85	19	18	0	0	122
\$20,000 +	385	27	10	7	0	429
<u>County Total:</u>						
\$0 - 4,999	51	24	17	61	20	173
\$5,000 - 9,999	226	56	55	71	0	408
\$10,000 - 14,999	196	24	26	48	0	294
\$15,000 - 19,999	220	35	20	12	0	287
\$20,000 +	786	63	35	17	0	901

Source: 1980 Census, State Census Data Center.

Table HOUSE-16: Estimated Unmet Housing Need, 1980

	<u>Number of Households "Overpaying"¹</u>		
	<u>Cities of Colusa/Williams</u>	<u>Unincorporated Areas</u>	<u>Total County</u>
<u>Renters</u>			
<u>Income Category</u>			
Very low	194	122	316
Low	69	21	90
Moderate	41	13	45
Above moderate	4	4	4
<u>Owners</u>			
<u>Income Category</u>			
Very low	80	65	145
Low	55	38	93
Moderate	25	37	62
Above moderate	39	23	62

¹Housing costs more than 25 percent of income.

Assuming a 20 percent downpayment, a 30-year fixed mortgage, and a 12 percent interest rate, the annual principal and interest payment on such a home would be \$5,700 ($\475×12). Adding property taxes at \$580 annually, insurance at about \$200 a year, and utilities at \$500 a year would result in a total yearly housing cost of \$6,980. At 30 percent of gross income, the household would need to earn at least \$23,266 to afford such a home.

Although there are no current estimates of the number of households in Colusa County above and below that margin, there are clearly a large number of households in the county which would find that cost prohibitively high. At the same time, such house payments would seem very attractive to families in the Sacramento and San Francisco Areas, where median incomes are substantially higher. For instance, yearly home costs of \$6,980 would be well within reach of households classified as "low income" in Napa and Solano Counties in 1987 (\$27,700).

As a result of high housing costs, Colusa County should expect heightened demand for mobile homes and rental properties. The final cost of a mobile home was estimated to be 35 percent less than a single family home in the 1983 Housing Element, making it affordable to a much broader income group. However, the payoff period on a mobile home loan is usually shorter than 30 years, resulting in house payments that are not significantly less than those on a conventional home. Moreover, mobile homes depreciate faster than conventional homes, and do not offer the level of equity that makes conventional home purchase so attractive.

Housing Production Targets by Income Group

Housing production targets are determined by a number of factors, namely the physical condition of a community's housing stock, the extent of overpayment, the extent of overcrowding, and the housing needs of special groups such as the handicapped and elderly. The State Department of Housing and Community Development has prepared a formula for calculating housing need by income group. The formula is based on certain assumptions about vacancy rates, housing replacement (replacing housing that is deteriorated or dilapidated), and housing removal (due to fire, etc.).

For Colusa County, the following assumptions have been made:

- o 2 percent vacancy rate for owner-occupied housing; 6 percent vacancy rate for renter-occupied housing
- o 3 percent of housing stock to be replaced over next 6 years (0.5 percent per year, in accordance with 1983 Tri-County Housing Element)
- o 1.2 percent of housing stock to be removed over next 6 years (0.2 percent per year)
- o Percentage of households classified as "very low", "low", "moderate", and "above moderate" to remain constant over next 6 years
- o 2.7 percent annual household growth in cities of Colusa and Williams, and 1.5 percent annual household growth in unincorporated area.

Table HOUSE-17 identifies the housing need for the year 1993 based on these assumptions. The results differ depending on whether local or state data is used when calculating the number of existing housing units in the county. The State Department of Finance reported that there were 3,460 units in the unincorporated area in 1987, but local building permit records indicate that there were about 3,230 units. The difference can be attributed primarily to the counting of seasonal units in the state total and the omission of these units in the local total.

Using local data, Table HOUSE-17 indicates the need for 620 housing units between January, 1987 and January, 1993. The distribution of these units by income type is shown in Table HOUSE-18. About 180 very low income and 132 low income units will be needed to meet household growth over the next 6 years. More than two-thirds of these units will be needed in the cities of Colusa and Williams.

GROUPS WITH SPECIAL HOUSING NEEDS

Physically Disabled Households

The best measure available to estimate the number of physically disabled persons is the census statistic identifying persons with a work disability. The 1980 Census reported that there were 777 people in Colusa County with a work disability, including 389 persons that were unable to work due to their disability. The disabled figure represented more than 10 percent the county labor force, more than half of whom lived in the cities of Colusa and Williams.

Another census statistic indicating the number of physically disabled persons concerns public transit dependency. In 1980, there were 128 persons aged 16-64 and 206 persons over 65 considered "transportation disabled". Housing for the physically disabled population requires special design and locations which are limited in supply. As these households are often low or moderate income, their unmet housing need can be significant.

Elderly Households

About 13 percent of the County's population was over 65 in 1980. This population group generally requires smaller, lower maintenance housing units, close to health care, shopping, and community service facilities and accessible to public transit. As in the case of physically disabled households, there are a limited number of sites available in the county for the construction of such units. For homeowners, public assistance for rehabilitation is often a necessity. Although elderly homeowners often have very low house payments, they may lack the income required to pay for the maintenance of their homes and properties.

Migrant Farm Workers

Although the number of migrant farmworkers in the county has diminished with the mechanization of farming, there is still a seasonal labor force in excess of 1,000 persons with special housing needs. Seasonal employment peaks in August and September when employment in agricultural production exceeds winter figures by 1,500

Table HOUSE-17: Projected Housing Need, 1993

	<u>Cities of Colusa/Williams</u>	<u>Unincorporated Area</u>	<u>County Total</u>
Projected Households, 1993	2,783	3,214	5,997
Owner (63%)	1,753	2,025	3,778
Renter (37%)	1,030	1,189	2,219
Plus Vacancies			
2% Owner	35	41	76
6% Renter	62	71	133
Total Units Needed	2,880	3,326	6,206
Plus Allowance for Replacement Housing	59	74	133
Plus Allowance for Housing Removal	28	35	63
Units Needed, 1/1/93	2,967	3,435	6,402
Total Units Existing 1/1/87, based on State data	2,558	3,460	6,018
Year-Round Units Existing 1/1/87, based on local data	2,552	3,230	5,782
Units Needed, 1987-1993			
Based on State Data	409	0	409
Based on Local Data	415	205	620

Table HOUSE-18: New Housing Units (1987-1993) Needed by Income Group Based on State and Local Data

<u>Income Group</u>	<u>Cities of Colusa/Williams</u>			<u>Unincorporated Area</u>			<u>County Total</u>	
	<u>Data Source</u>							
	<u>State</u>	<u>Local</u>	<u>Percent of Total</u>	<u>State</u>	<u>Local</u>	<u>Percent of Total</u>	<u>State</u>	<u>Local</u>
Very Low	123	125	27	0	55	28	123	180
Low	86	87	22	0	45	22	86	132
Moderate	61	62	16	0	33	16	61	95
Above Moderate	139	141	35	0	72	34	139	213
TOTAL	409	415	100	0	205	100	409	620

Table HOUSE-19: Persons Per Housing Unit

	<u>Owner-Occupied</u>			<u>Renter-Occupied</u>		
	<u>Cities of Colusa/Williams</u>	<u>Uninc. Area</u>	<u>County Total</u>	<u>Cities of Colusa/Williams</u>	<u>Uninc. Area</u>	<u>County Total</u>
Persons Per Unit						
One	248	327	575	271	542	513
Two	461	666	1,127	207	244	451
Three	229	222	451	160	148	308
Four	218	227	445	92	147	239
Five	108	93	201	40	72	112
Six or More	51	86	137	43	87	130
Total	1,315	1,621	2,936	813	940	1,753

Source: 1980 Census, State Census Data Center.

persons. The Employment Development Department estimated that just over 1,000 of these persons were migrant farmworkers, and that between 10 and 20 percent were inadequately housed. Although the figures are high, the percentage of inadequately housed farmworkers was much lower than in nearby Glenn and Tehama Counties, where it was estimated at 50-60 percent.

There are 4 registered private farmworker labor camps in Colusa County, with a capacity of 70 persons. There is also a 100-unit state-operated camp just outside of Williams which houses 250 people on a seasonal basis. There are presently no plans to enlarge the Williams Camp, although there is an adjoining county-owned site equivalent in size to the developed site. Because state funds for the construction of new migrant projects are scarce, local growers will need to initiate most of the future projects built in the county.

Large Families

The number of households containing one, two, three, four, five, and six or more individuals is shown in Table HOUSE-19. The table indicates that families with six or more members made up 4 percent of all households in the cities of Williams and Colusa, and 7 percent of all households in the unincorporated area. About half of these families were renters. Although the 1983 Tri-County Housing Element concluded that the percentage of large families in small dwelling units was decreasing, there has been evidence to the contrary in Colusa County during the last five years. Average household size has risen, and it is likely that overcrowding is now more common among large, low-income families than it was in 1980.

The Homeless

There are no estimates of the number of homeless individuals in Colusa County, but the incidence of homelessness appears to be very small. Even so, subsidized rental units in the county have waiting lists and affordable housing may be impossible to find during the harvest season. In one instance, a family ineligible for rental assistance was found to be living in a car. Local churches and police or sheriff's departments have provided assistance in such cases.

PROSPECTS FOR HOUSING PRODUCTION

RESIDENTIAL LAND SUPPLY

Countywide, the land use plan designates 2,900 acres for "urban residential" development. About 50 percent of this total is already developed, and about 10 percent will be required for future streets, parks, and public facilities. The remaining land could potentially accommodate more than 4,000 new housing units, or about 50 percent more than the "urban" housing demand projected between 1987 and 2010. In addition, more than 3,000 acres of vacant or partially improved land is designated for rural residential development, permitting as many as 3,000 rural dwellings. Again, this surpasses the projected housing demand for the planning period, and establishes a wide variety of potential building sites and housing types. The relatively large land supply encourages opportunities for housing which can be marketed at more affordable prices and rents.

The Land Use Element of this plan includes eight community plans, each designating areas for future housing development. These plans encourage the provision of affordable housing by locating residential growth where public services are readily available and by encouraging higher-density development rather than large-lot rural development. Although opportunities for rural residential growth are provided, the majority of future housing will be built on sites within or adjacent to the communities of Arbuckle, Colusa, Grimes, Maxwell, Princeton, and Williams. The differences between the old (1970) General Plan and this plan are summarized for each of these communities below.

Arbuckle

A land use plan was not done for Arbuckle in the 1970 Plan. However, zoning in the community permits residential development (8,000 square foot lots) in most of the areas shown as "Urban Residential" on the new land use map. The farmland east of First Street has been reclassified from future residential use to agriculture, and the area between Almond Paradise and Lucas Avenue has been reclassified from agriculture to future residential use. New rural residential areas have been designated west of Almond Avenue and west of the High School.

Colusa Vicinity

The new land use plan recommends about the same acreage for future urban residential uses as the 1970 Plan. However, planned residential land is still about double what is required given the housing growth projections for 1987-2010. Some areas previously designated for transitional agriculture uses are now designated for urban residential uses, while other areas formerly shown as urban residential are now planned for rural residential. The changes reflect the development and ownership patterns that have emerged over the last 17 years, as well as a desire to maintain the rural character in parts of the sphere of influence.

Grimes

A land use plan was not prepared for Grimes in the 1970 General Plan. The community's zoning map shows that 8,000 square foot lots are permitted within the entire water service area. Because the town lacks a sewer system, the amount of vacant land shown as "urban residential" has been reduced. However, the current plan still permits more housing within Grimes than will be demanded over the next 25 years.

Maxwell

A land use plan was not prepared for Maxwell in the 1970 General Plan. However, comparing the new plan to the town's current zoning shows that a larger area will be set aside for urban residential uses in the new plan. This change is required to accommodate expected job growth in the new industrial area east of town. Most of the planned residential growth will be west of town, in the vicinity of the high school. A large area for new rural residences has been designated southwest of the town.

Princeton

Although no land use plan was done for Princeton in 1970, the zoning map indicates that an unrealistically large area was designated for multi-family housing. Most of this land has been reclassified as an agricultural transition area. About 30 acres of vacant land are shown as "urban residential", which is still more than enough to meet the town's projected 25-year housing growth.

Williams Vicinity

The new land use plan recommends substantially more housing in Williams than was called for in the 1970 Plan. About 500 acres south of the city limits formerly designated for rural residential use have been replanned to allow urban residential use. Since Williams is expected to emerge as the county's leading employment center by the year 2010, additional land for housing is needed to reduce commuting. If industrial growth proceeds as expected, a large area south of Williams now designated Agriculture-Transition may need to be redesignated for residential use before the horizon year of this plan.

Other Areas

The county land use plans permit a minimal amount of housing outside of the six communities identified above. Additional rural residential growth is permitted in College City, Delevan, Sites and Stonyford-Lodoga. Since these communities lack central sewer and since water supply is very limited in the Stonyford area, increases in urban residential use are not recommended.

CONSTRAINTS TO HOUSING DEVELOPMENT

Infrastructure Constraints

Classification of vacant land for future residential development does not by itself permit development. It is important that infrastructure and public services be provided to allow this development to proceed, particularly where urban densities are planned. Sewer, water, and drainage improvements will be necessary in some of the county's communities to accommodate housing demand over the next five years, and will be necessary in virtually all communities to meet 25-year housing needs.

Table HOUSE-20 summarizes infrastructure constraints to development in the six communities with full or partial urban services. Outside of these communities, the lack of water or sewer facilities will greatly limit future housing opportunities, especially for low- to moderate-income households.

The table shows that effluent quality at the sewage treatment plants in Williams and Colusa may constrain short-term growth in these communities. Although both plants have capacity for additional customers, each needs to be upgraded to meet more stringent state and federal discharge standards. Colusa is currently correcting its suspended solids problem, and Williams has made plans to upgrade its treatment process. However, its application for CDBG funds to undertake the project has been turned down.

Table HOUSE-20: Infrastructure Constraints to Housing Development in Colusa County

<u>Community</u>	<u>Constraint</u>
Arbuckle	None immediate; expansions of sewer plant and additional water wells are likely to be required before the year 2000.
Colusa	Immediate need for additional water wells; sewage treatment plant effluent does not meet EPA standards; older water lines in need of replacement.
Grimes	No central sewer system.
Maxwell	None immediate; expansions of sewer plant and additional water wells are likely to be required before the year 2010.
Princeton	None immediate.
Williams	Drainage and flooding problems on north side; inadequately sized water mains on south side; sewage treatment plant effluent does not meet EPA standards; additional sewer capacity will be needed before the year 2000.

Once improved, the Colusa treatment plant will have sufficient capacity to meet the level of development shown in this plan. In Williams, however, the system will reach capacity with about 300 additional connections. When that happens, the city will need to expand the plant or consolidate municipal treatment within the Plank Industrial Park. Both cities will need to improve their sewage collection systems to accommodate future development. Treatment plants in Arbuckle and Maxwell are also likely to reach capacity by the year 2010, although capacity appears adequate for the next 10 years in both communities. Princeton has sufficient capacity to accommodate its projected growth for at least the next 25 years.

The availability of water for future residential development is an equally pressing concern. In some communities, such as Williams, expansion of the water system is constrained by old, inadequately sized distribution mains that need to be replaced. In other communities, such as Colusa, additional wells are needed, since pumping capacity has been reached at existing wells. In all communities, there is concern about the long-term supply and quality of groundwater, which is presently the source of all potable water in Colusa County. This concern is more immediate in the foothills, where it has been used as the basis for limiting future development in the Stonyford-Lodoga area.

Short-term water constraints appear greatest in Colusa and Williams. Pumping and distribution systems appear adequate to support development in Arbuckle, Grimes, Maxwell, and Princeton for at least the next 10 years. As the Community Services Element suggests, arrangements to bring potable surface water to Colusa County may become necessary before the horizon year of this plan.

Inadequate storm drainage is another constraint to housing development. The problem appears most severe on the north side of Williams, where winter flooding of Salt Creek is common. The cost of improving the creek and reducing the size of the flood plain has been estimated at \$1.5 million. Future residential development should not take place in this area until a comprehensive drainage solution is reached.

Regulatory Constraints

Development Fees. Although permitting and processing fees add to the cost of housing in Colusa County, they are substantially less than fees in most California communities. The average permitting cost for a \$57,000 single family detached home in the city of Williams, the city of Colusa, and the unincorporated county (on septic) would be respectively \$1400, \$1990, and \$646 per home, excluding school district impact fees. Fees in the county would be higher if the home was to be hooked up to a central sewer or water system. By contrast, the median impact fee per unit in the San Francisco Bay Area was \$2,851 in 1987.

In Williams, 75 percent of the permitting cost goes to sewer and water connections. The City of Colusa has lower utility connection fees than Williams, but charges a \$720 "inclusion" fee to cover increases in administrative, drainage, safety, garbage, street maintenance, and park service costs. All three jurisdictions base the building permit cost on the value of the home to be built.

Additional fees would be charged for general plan or zoning amendments, variances or use permits, and the filing of a subdivision map (preliminary, tentative, and final). There are also a range of fees associated with the environmental review procedure, including a fee for EIR determination, for EIR review, and the cost of pre-

paring the EIR itself. Other fees are charged for permit extensions and LAFCO applications.

All of the school districts in the County enacted school impact fees in 1987. The fees total \$1.50 a square foot for residential uses, and \$0.25 a square foot for commercial and industrial uses. The fees add \$1,800 to the cost of a 1,200 square foot home, more than tripling the permitting cost in the unincorporated area. These fees will certainly have an effect on the sales price of new homes.

Density. Zoning regulations in Colusa County and in the cities of Williams and Colusa permit a wide range of residential densities. There are vacant sites designated for mobile home parks or apartments in the communities of Colusa, Williams, Maxwell, Arbuckle, and Princeton. In the unincorporated area, the R-4 zone permits up to 21 units per acre, while in the cities of Colusa and Williams the R-4 zone permits up to 30 units per acre. Both of these densities are sufficient to permit apartment complexes. In some communities, the lack of vacant R-4 sites may be constraining new apartment development. It is recommended that additional land within Colusa, Maxwell, and Williams be designated R-4 when the county is rezoned.

The minimum lot size in Colusa County is 8,000 square feet for parcels without sewer and water, and 6,000 square feet with sewer and water. In the city of Colusa, the minimum lot size is 8,000 square feet and in Williams it is 6,000 square feet. In most of the communities, there are older lots in the original townsites that are smaller. Construction is generally allowed on existing substandard lots, although their consolidation into larger parcels is encouraged. At this time, "zero-lot line", patio home developments, or other single family projects on lots smaller than 6,000 square feet would require a "Planned Development (PD)" designation to proceed. Because land is still fairly inexpensive in the county, demand for homes on very small lots is low. The minimum lot standards do not appear to affect home prices, and few variations from the standards have been proposed.

Restrictions on House Type. None of the jurisdictions in Colusa County restricts the siting of manufactured homes. Such homes are treated as though they were conventional single family homes and are permitted in all residential zoning districts. Mobile homes are permitted on single family lots within the county, but are allowed in designated mobile home parks only within the city of Colusa. Second units (granny flats) are permitted with a use permit in all unincorporated areas, but are not allowed in single family (R-1) zones within the city of Colusa. Where such units already exist in the city, they are treated as non-conforming uses. In Williams, decisions on second units are made on a case-by-case basis.

Restrictions on house type have not posed a constraint to affordable housing production in Colusa County.

Building Codes. Colusa County and the cities of Williams and Colusa use the Uniform Building Code. There are no constraints to housing production resulting from the required construction standards.

Processing Time. Processing time does not add significantly to the cost of housing in Colusa County. Applicants seeking to build a single family home on a residentially zoned parcel can receive all permits within 5 working days in the county or in either of the two cities. Permitting time increases where land subdivision, variances, rezoning, or environmental review procedures are required.

Market Constraints

As in other parts of the state, housing production in Colusa County has been constrained by high interest rates and rising construction costs. Higher costs have led to a virtual halt in private rental apartment construction in the county and have constrained market-rate housing production. Due to the county's small size and low housing demand, it is difficult for the private sector to build large-scale speculative housing developments. The return needed to justify such projects cannot be reached with the small number of units that can be absorbed by the county's market. As a result, most privately financed new housing in Colusa County is owner-built or custom-built.

HOUSING POLICIES

- HO-1 The County general plan shall designate a sufficient amount of residential land to support the housing needs identified in this element. The zoning maps of the cities and county should be revised accordingly to ensure that all sites planned for residential use are appropriately zoned.
- HO-2 Within those areas shown in the Land Use Element as "Urban Residential" in Arbuckle, Maxwell, Colusa, and Williams, a range of zoning designations should be used to encourage a mixture of residential densities. These designations should provide additional sites for multi-family housing within each of the four communities listed above. In the revision of city general plans and zoning maps, both Colusa and Williams should identify additional sites for the development of multi-family housing.
- HO-3 Short-range plans for public infrastructure, especially sewer, water, and drainage facilities, should accommodate the level of housing construction determined to be necessary according to this element. Such plans should include measures to reduce flooding on the north side of Williams, to avoid future flooding on the south side of Colusa, to upgrade effluent quality at the Colusa and Williams sewage treatment plants, to upgrade water lines in Williams, and to expand water pumping capacity in Colusa. The county should support the cities in their efforts to obtain state and federal funding for such improvements.
- HO-4 Colusa County should continue to be actively involved in federal and state housing assistance programs directed towards new construction, rental assistance and rehabilitation. Emphasis should be placed on programs where the probability of securing funds is highest.
- HO-5 Colusa County and the cities of Williams and Colusa should encourage the construction of housing by non-profit corporations and should assist such corporations in their applications for state and federal funds.
- HO-6 The use of federal and state housing assistance programs by the private sector should be encouraged by Colusa County for the purpose of expanding housing opportunities for persons of low and moderate income. Programs incorporating the "self-help" concept should be encouraged.
- HO-7 Governmental constraints to housing development, such as excessive

permitting requirements, unreasonable fees, processing delays, and unreasonable improvement standards shall be minimized. Colusa County should take actions to centralize the permitting process for residential development. The number of different agencies from whom permits must be obtained should be kept to a minimum to avoid processing delays and inconveniences.

HO-8 Residential builders and developers should be encouraged to provide for the inclusion of dwelling units suitable for sale or rent to low and moderate income households within their projects. Land use regulations at the city and county level should be modified to permit at least two of the following four options:

- (1) Inclusionary zoning (requiring developers to set aside a certain percentage of units in their projects for affordable housing)
- (2) Streamlined permitting and processing
- (3) Density bonuses for projects with low- to moderate-income units (permitting developers to build more homes than would be permitted under the zoning ordinance)
- (4) Selected waiving of development fees for projects with low- to moderate-income units

HO-9 Manufactured housing should be recognized in the communities of Colusa County as a more affordable alternative to the single family detached home. Land use regulations in the county and in the cities of Colusa and Williams should not place undue restrictions on the siting of manufactured homes but should include design standards which ensure that they are compatible in character with the surrounding community.

HO-10 Second housing units or "granny flats" should be permitted where appropriate. Such housing should be recognized as a potentially important component of the affordable housing supply in Colusa County, particularly for low income renters.

HO-11 Conformance with local building codes shall be encouraged and enforced to ensure that housing is safe and sanitary and to minimize hazards to public health and safety.

HO-12 The provision of migrant farmworker housing by the private sector shall be encouraged. Such housing shall meet the building code requirements established by the State Department of Housing and Community Development. Building officials in the cities and county should advise and support farmworker employers proposing to build such housing.

HO-13 The local building industry should be encouraged to present written and oral input to the county and cities to recommend measures which may be taken to meet the housing needs of the local population.

HO-14 Measures to eliminate housing discrimination on the basis of race, age, sex, marital status, ancestry and national origin shall be supported.

- HO-15 Rehabilitation of homes in deteriorated condition should be encouraged by continued participation in rural community development block grant programs. The county should continue to pursue the objective of providing rehabilitation assistance to at least 7 (unincorporated) homeowners a year, as recommended by the 1983 Tri-County Housing Element. Raising this objective to 14 units per year should be given serious consideration.
- HO-16 Additional opportunities for market-rate and luxury housing within Colusa County should be encouraged.
- HO-17 Energy conservation should be encouraged by:
- (1) Promoting housing construction close to planned employment centers to reduce gasoline consumption
 - (2) Promoting the expenditure of state and federal housing rehabilitation funds on weatherization and insulation of existing homes
 - (3) Maintaining zoning and building code regulations which permit energy-efficient architectural and subdivision design and the use of solar energy.
- HO-18 New mobile home parks should be encouraged in R-3 and R-4 areas. In accordance with Policy HO-2, additional R-3 and R-4 areas should be designated in Arbuckle, Williams, Maxwell, and Colusa.
- HO-19 Residential density standards should be modified where appropriate to permit zero-lot line or patio home developments. Such modifications should specify setback, open space, design, and parking requirements, and minimum lot sizes that are smaller than 6,000 square feet.
- HO-20 Colusa County should encourage the protection of the existing rental housing supply.
- HO-21 The construction of self-help and owner-built housing should be encouraged to increase the supply of housing affordable to low and moderate income residents.
- HO-22 Land use decisions at the city and county levels should protect the quality of existing neighborhoods in Colusa County from intrusion by incompatible uses. Programs which enhance the health, safety and visual quality of existing neighborhoods shall be encouraged.
- HO-23 Any state or federal project--such as a reservoir or interstate highway improvement--which requires the relocation of existing housing shall fully provide for the housing needs of displaced persons.
- HO-24 A survey of County-owned lands should be undertaken to determine which sites, if any, may be suitable for low and moderate income housing.

RECOMMENDED HOUSING TARGETS AND PROGRAMS

YEARLY PRODUCTION TARGETS

Housing Rehabilitation

Target set by 1983 Element. 7 units per year, 1982-1985 (unincorporated only).

Recommended Annual Target: 1988-1993. 14 units per year (unincorporated only).

Other Recommendations. Update estimate of "deteriorated" units as soon as 1990 Census data is available.

Discussion. The 1983 Tri-County Housing Element recommended that 5 percent of the county's housing stock classified as "deteriorated" be rehabilitated with public assistance each year. The Tri-County Planning Agency reported that there were 185 such units in the unincorporated county, plus 312 in Colusa and 51 in Williams. The figure for Colusa was subsequently revised downward to about 60 units.

Since 1980, 50 units in the unincorporated area have been rehabilitated and 20 units have been rehabilitated in Williams. This leaves a net need of 135 units in the county and about 80 units in the two cities. Accordingly, the Tri-County Planning Agency assigned Colusa County a target of 7 homes per year through 1993, while the cities of Colusa and Williams were assigned targets of 3 units per year and 1 unit per year respectively.

In the update of its Housing Element, Williams has set a more ambitious target. The city's goal is to rehabilitate 50 units between 1986 and 1992 through CDBG funds. The City of Colusa would also like to see a more ambitious target than the 3 units per year set by the Tri-County Element. However, their application for \$239,000 in CDBG housing rehabilitation funds was turned down in 1987.

It is recommended that the example set by the cities be followed and the rehabilitation goal be increased. The target above shows the annual goal has been raised from 5 percent (7 units/year.) to 10 percent (14 units/year.). The 1990 Census will provide new data on housing condition and should be used as the basis for new rehabilitation targets.

Rental Housing Assistance

Target Set By 1983 Element. 5 additional households per year, 1982-1985 (unincorporated area)

Recommended Annual Target, 1988-1993. 0 additional households per year.

Other Recommendations. Recalculate renter overpayment based on 30 percent figure as soon as 1990 Census Data is available.

Discussion. Recommendations for rental housing assistance should be based on the number of renters paying more than 30 percent of their income for housing as of 1987. Unfortunately, the only data available indicates how many renters paid more

than 25 percent or 35 percent of their income for housing in 1980. By dividing the 25-35 percent bracket in half, it can be estimated that in 1980 there were 110 households needing renter assistance in the county and 167 in the cities. Assuming these needs have grown at the same rate as all households between 1980 and 1987, the figures today would be 126 in the county and 186 in the cities. Subtracting the 12 assisted rental units built in Maxwell (in 1980), the net figure for the county is 114 units. Based on conversations with HUD and HCD, none of this need is presently being met through housing vouchers provided under the federal Section 8 program.

The Tri-County Housing Element recommended that 5 percent of the remaining need be met each year through additional federally-funded housing vouchers. However, it would be unrealistic to rely on Section 8 since the program is being phased out. The most realistic solution to problems of overpayment is to continue to administer federal welfare programs such as Aid to Families with Dependent Children and to encourage the construction of affordable renter and owner-occupied units.

New Assisted Housing Construction

Targets Set By 1983 Element. 0 units per year, 1982-1985

Recommended Annual Targets, 1988-1993. 55 assisted-rental apartments (unincorporated area); 40 assisted-owner single family homes (unincorporated area).

Discussion. The 1983 Tri-County Element determined that no new assisted housing was needed in the unincorporated area or in the cities of Colusa and Williams between 1982 and 1985 due to the large number of publicly-assisted projects that were already underway at that time. However, there are no such projects "in the pipeline" for the 1988-1993 period. During this time period, 312 additional low or very low income households are projected in the county, including 100 in the unincorporated area and 212 in the two cities. The county should strive to meet its share primarily through the construction of additional FmHA 515 renter-occupied projects and FmHA 502 owner-occupied projects.

Table HOUSE-21 summarizes the estimated new construction needs for renters and owners between 1988 and 1993. Construction of 55 assisted rental apartments (FmHA 515) is recommended to meet the increase in very low income households in the unincorporated area. A portion of these rentals should be designed to meet the need of low-income senior citizens. Assisted rentals should be located in either Arbuckle, Grimes, Maxwell, and/or Princeton. The cities of Colusa and Williams should undertake additional programs to house very low income households within their corporate limits.

A target of 40 new assisted-owner single family homes is recommended by 1993; these homes should be located in Arbuckle, Grimes, Maxwell, and/or Princeton. Additional assisted-owner projects should be undertaken within Williams and Colusa. The target of 40 units is based on the goal of assisting roughly 50 percent of all new households classified as low or moderate income. On an annual basis, the target translates to about 9 rental units and 7 owner units per year. By comparison, the 1980-1987 average was 2 rental units per year and 20 owner units.

**Table HOUSE-21: Housing Rehabilitation and Production Targets, 1987-1993:
Unincorporated Area Only**

Rehabilitation:

<u>Number of "Deteriorated" Units, 1980</u>	<u>Number of Units Rehabilitated Since 1980</u>	<u>Net Deteriorated Units</u>	<u>Annual Rehabilitation Target, 1988-1993</u>
185	50	135	14 units/year

Assisted Housing Construction Needs:

<u>Housing Type</u>	<u>Estimated Housing Unit Need, 1988-1993</u>	<u>1988-1993 Assistance Target</u>
Very low income	55	55
Low income	45	40
Moderate income	33	
Above moderate income	72	0

Immediate Actions

The following actions should be undertaken by the county to pursue the policies and targets set forth in this Element:

1. Continue to apply for CDBG funds for housing rehabilitation and weatherization.
2. Fully cooperate with the private sector in their efforts to build assisted rental and assisted owner housing in Arbuckle, Maxwell, Grimes, and Princeton.
3. Rezone the four communities identified above to ensure an adequate supply of sites for multi-family housing or mobile home parks.
4. Evaluate the suitability of county-owned sites in the four communities listed above for use as affordable housing developments.
5. Revise the zoning and subdivision ordinances to ensure that higher density single family home projects (zero-lot line or patio homes) can be built without variances or delays.

HOUSING PROGRAMS

The focus of the county's housing program is on the provision of low and moderate income housing. The private sector appears capable of producing sufficient market rate and luxury housing without public financial assistance. The county's principal role in the market-rate and luxury housing market is to assist the developer or builder in the permitting process and to ensure that regulations do not create unreasonable hardships. The local government also makes sure that public services and roads are sufficient to support new development, and that the development pays its way if services or roads need to be expanded.

By contrast, housing at the low and moderate income levels offers prohibitively low investment returns to the private sector. The public sector must take a more active role, usually by providing low-interest loans, grants, or loan guarantees to the developers or occupants of such projects. Since local financial resources are limited, the source of these funds are usually the state and federal governments. A number of programs are available to help finance new home construction and rehabilitation, and assisted rental housing.

Those programs which are most applicable to Colusa County are described in this section. This is only a partial listing and is based on recommendations contained in the 1986 Williams Housing Element. Programs not listed are those which are being phased out by the federal government, those applicable to urban areas, and those for which funding is very limited.

FARMERS HOME ADMINISTRATION (FmHA)

FmHA is an agency of the U.S. Department of Agriculture offering grants and low costs loans for rural housing improvement. Unlike HUD, the agency acts directly as lender; recipients of loans and grants include rural residents, government agencies, and profit and non-profit sponsors. Although funding levels have been cut back since

in 1980, several programs remain active.

FmHA Section 502

The 502 program has been the most frequently used means in Colusa County to build owner-occupied housing for low and moderate income families. This program provides direct loans to profit and non-profit housing developers and to individuals seeking to buy, build, repair, or renovate a home. Interest rates vary according to adjusted family income and loans may be made on 100 percent of cost. The applicant must be able to meet monthly payments with 20 percent of adjusted income and must be unable to obtain conventional financing at reasonable rates. The **FmHA 523/524** program is used in conjunction with this program to provide counselors and construction supervisors.

FmHA Section 504

This program provides home repair loans of up to \$5,000 to very low income families at an interest rate of one percent. The program provides outright grants for housing rehabilitation for persons 62 years of age and older. Applicants must lack the income to repay the loan under Section 502 and must own and occupy a rural home with conditions hazardous to health and safety.

FmHA Section 515

This program provides loans to public and private (usually non-profit) sponsors for construction or rehabilitation of rental or cooperative housing. Interest rates vary between one percent and market rate, with loan terms of 40 years. Loans may be made for 102 percent of project cost for public sponsors and 95 percent for private sponsors. Tenants must be low and moderate income families or elderly persons and may not pay over 25 percent of their adjusted income for rent and utilities. The program may be used in conjunction with the State's Rental Housing Construction Program.

FmHA Section 514/516

This program provides a combination of loans and grants to finance construction of rental housing for farmworkers. Grants of up to 90 percent of project cost can be made, with the balance payable at 1 percent interest over a 33 year term. Grant recipients include public and private non-profit corporations, state agencies, political subdivisions, and non-profit farmworker associations. Farm-owners qualify for loans only. The program may be used to house documented farm workers only.

VETERANS ADMINISTRATION (VA)

The VA guarantees loans made by private lenders to veterans of World War II, the Korean War, and those who served in the armed forces after January, 1955 for more than 180 days. Loans may be used to buy, build, alter, repair, or improve a home or condominium, to buy a mobile home, or to refinance existing house loans.

STATE OF CALIFORNIA

Small Cities Community Development Block Grants (CDBG)

The Small Cities CDBG program is aimed at cities and counties that do not participate in the federal (HUD) CDBG program. About 200 cities and counties in California qualify. Funds may be used for housing rehabilitation and weatherization, the repair and expansion of infrastructure, economic development, and public facility and public service activities. The program is extremely competitive. Applications are evaluated on need, program effectiveness, and the benefit provided to low and moderate income households.

Mobile Home Park Assistance Program (MPAP)

This program provides financial and technical assistance to low income mobile home park residents or to organizations formed by park residents seeking to own and/or operate their mobile home parks. It is aimed at tenants of mobile home parks facing displacement due to the impending sale or closure of the park.

Rental Housing Construction Program (RHCP)

This program was designed to stimulate the production of affordable rental units for the state's low-income households. Funds are usually channeled directly to local entities or are used to write down rents on FmHA 515 rental projects.

Office of Migrant Services (OMS)

The OMS provides safe, decent and affordable housing and services to migrant families during the peak harvest season. Counties furnish the land for the migrant camps as an in-kind service. The Colusa County migrant camp is adjoined by county-owned vacant land which could potentially support additional temporary units under this program.

Farmworker Housing Grant Program (FWHG)

This program was established to meet farmworker housing needs in the state. Funds are used in conjunction with FmHA programs to develop or rehabilitate farmworker housing that would not be constructed without HCD assistance. The program provides 50 percent matching grants to public agencies, non-profit or cooperative housing corporations and recognized Indian tribes.



Conservation Element

CONSERVATION ELEMENT

"We feel like crowing--not over the defeat of anyone, for we would never do that, but over what we sincerely believe to be the greatest stride ever made for the prosperity of the Sacramento Valley--271 for irrigation to 51 against. We believe that an era of prosperity is to dawn on Colusa County such as she has never seen before.

Colusa Sun Herald
December 3, 1887

ORGANIZATION OF THIS ELEMENT

The Conservation Element addresses the preservation, management, and utilization of the County's natural resources. Colusa County's economy is supported by its abundant natural resource base: agriculture is the county's leading industry and depends heavily on flat topography, good soils and an abundance of water. Beneath the ground in the eastern portion of the county lie producing natural gas fields, making Colusa County the second largest natural gas producer in the state. Careful management of the County's resources will assure the availability of those resources to future generations and the realization of their full economic potential now and in the future, avoiding detrimental effects on other resources.

This element contains provisions for the conservation and protection of forests, water, rivers, soils, minerals, and air, and the preservation of agricultural uses, wildlife and fisheries. Its issues are closely linked to those of the Land Use, Open Space and Safety elements. The focus of the Conservation Element is on preservation and managed production of natural resources. These issues are addressed in the Open Space Element, but with a primary emphasis on outdoor recreation. Many of the conservation issues - water quality, for example, are also directly related to public health and safety. Development intensity and compatibility issues related to resource protection or production are discussed in the Land Use Element.

The Conservation Element identifies the types of uses which are compatible with resource utilization, specifies measures necessary for the protection of human life and ecological values, and provides for recreational uses and the preservation of the county's scenery.

The following issues are covered by the Conservation Element: landform and physiography; soils and geology; water and water quality; air and air quality; vegetation; wildlife refuges; fish and wildlife; agriculture; timber; minerals; geothermal energy; natural gas; and cultural resources. Many of these issues are discussed from a regional or statewide perspective. The activities in much of the Sacramento Basin can affect resources (such as water or air) which cross jurisdictional boundaries. The use of other resources, such as minerals or natural gas, are strategically important on a regional or statewide level. Colusa County's diverse supply of natural resources establishes its role in the region.

NATURAL RESOURCE PROFILE

LANDFORM AND PHYSIOGRAPHY

Colusa County's landforms can be broadly assigned to two major types: the alluvial plains of the Central Valley, and the foothills, ridges, and valleys of the Coast Ranges. The eastern one-third of the County, bordered by the Sacramento River and Butte Creek, is essentially flat with a gently increasing elevation gradient towards the northwest, where the central third of the county is typified by level or gently rolling valley lands. The western boundary lies along high, steep ridges of the Coast Ranges. These mountains run along a north-south axis and are bisected by a series of deep and spectacular alluvial valleys, the most prominent of which include Bear Valley, Indian Valley, and Antelope Valley (see Figure CO-1). Elevations range from about 40 feet above sea level in the eastern portion of the county to 7,056 feet at the summit of Snow Mountain in the northwestern corner of the county.

A few of the streams which flow from the foothills have cut deep trenches in the ground. Sediments have been deposited in many of the original stream channels, causing the paths of the streams to migrate and form low ridges in the vicinity. The Colusa Basin forms a low trough, separated into sections by these channels, between the alluvial fans of the foothills and the slightly elevated Sacramento River flood plain. The Colusa Basin extends as far north as Orland, in Glenn County. Its southern boundary is the town of Knights Landing, which is located atop a low ridge separating the Colusa and Yolo Basins. Much of the area between the Sacramento River and Butte Creek has received recent sediment deposits from flooding.

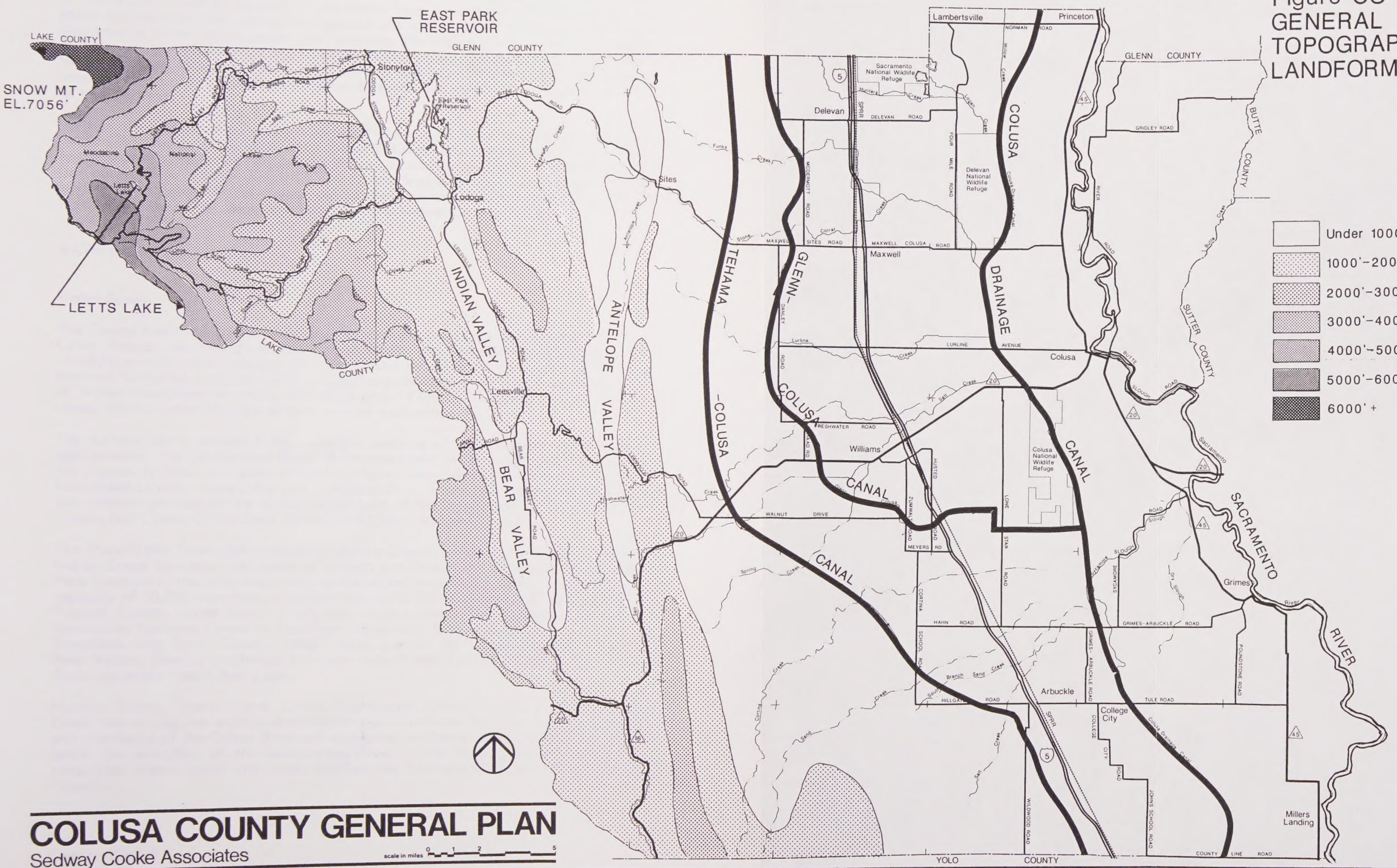
GEOLOGY AND SOILS

The geologic history of Colusa County includes a mixture of ancient marine and alluvial deposits, uplifting of the Coast Ranges along clearly defined faults, and volcanic activity. About 300 million years ago, the valley and upland areas of Colusa County were occupied by a vast sea. Up to about 155 million years ago, periods of volcanic activity and uplifting were followed by periods of uplifting and folding which formed the Coast Ranges (Harradine 1948). These periods ended about 3-4 million years ago when sediments of the Tehama Formation were deposited from Coast Range streams onto the valley floor (CSU Foundation 1981).

The floor of the Sacramento Valley, which was formed by the uplift of the mountains surrounding it, is a structural trough which has been filled with a thick sequence of marine and alluvial sediments ranging in age from 135 million years to recent. It is suggested that these sediments may overlie a deep bed of volcanic or metamorphic rocks which were formed up to 350 million years ago (California Department of Mines and Geology 1966). The sediments may reach depths of up to 6 miles.

The Sutter Buttes, which are located just east of Butte Creek in adjacent Sutter County, were formed approximately 7 million years ago by volcanic activity which pushed andesite rock up through the valley floor. The sediments have since eroded, leaving the current landform. Some of the sediments now form portions of the deep soil layers of Colusa County's agricultural lands.

Figure CO-1
GENERAL
TOPOGRAPHY AND
LANDFORMS



The historic sedimentary processes are directly related to the formation of the soils of the region. Most of the soils of the valley floor are alluvial silt loams, clays, and sands formed from the sedimentary igneous and metamorphic rocks deposited by the Sacramento River and various side channels (Harradine 1948). The sedimentary deposits on the valley floor form some of Colusa County's prime agricultural soils; however, some sediments are poorly drained and pose limitations for agricultural crops. The suitability of soils for agriculture are discussed further in a later section of this element.

Soils in the western foothills include undifferentiated loams and adobes which may contain fragments of the sandstones and shales from which they were made. Higher in the foothills, soils are very broken, deeply dissected, and rocky, limiting their use for agriculture. Some serpentine outcrops (exposed rock) are present in the southwestern corner of the county and on the ridge between Indian and Bear Valleys (California Division of Mines and Geology 1975; Holmes, et al., 1915).

WATER AND WATER QUALITY

Water Supply

The Colusa Basin Watershed in Colusa County includes the eastern slopes of the inner Coast Range, the trough of the Colusa Basin, and the Sacramento River. The county's precipitation averages 10 to 20 inches annually. Five major drainage areas (termed "Detailed Analysis Units" or DAU) are defined by the California Department of Water Resources according to topography. Figure CO-2 shows these drainage areas. Within each DAU are several smaller watersheds.

The surface water system in the county is made up of natural and man-made drainage systems. The Sacramento River is the most prominent natural water feature in the county. It flows in a general southerly direction, and ultimately drains the entire Sacramento Valley toward the San Francisco Bay. Numerous creeks and streams in the western portion of the county drain part of the Coast Ranges, including Stony Creek, Salt Creek, Little Stony Creek, Mill Creek, and Bear Creek.

The Stony/Elder Creek DAU drains north into Glenn County. Little Indian Creek and Indian Creek converge just south of Lodoga and flow north through Lodoga to East Park Reservoir, the only major impounded water body in the county, with a storage capacity of 50,900 acre-feet, a surface area of 1,820 acres, and a 43 mile shoreline. Frenzel Creek, Little Stony Creek and Hyphus Creek flow eastward out of the Mendocino National Forest to East Park Reservoir. Stony Creek flows just north of Stonyford, into Glenn County. Bear Creek, part of the Cache Creek DAU, drains Bear Valley, flowing southward to empty into Cache Creek in Yolo County, which flows westward from Clear Lake.

Hunters Creek, Stone Corral Creek, Freshwater Creek, Lurline Creek, and Salt Creek are among the watercourses which drain the lower foothills into the wetlands and rice fields of the Colusa Basin, an elongated catchment area lying parallel to and below the elevation of the Sacramento River. This water continues to flow as subsurface water which ultimately reaches the Sacramento River south of Colusa County.

Some runoff from the foothills and water from the Sacramento River is channeled into the Glenn-Colusa Canal, Tehama-Colusa Canal and the Colusa Drainage Trough (the 2047 Canal). These canals serve as the primary sources of irrigation water as well as flood control channels. Surplus water drains south, eventually entering the Sacramento River at the Knights Landing Ridge.

Most of the irrigation water for the county comes from the Glenn-Colusa Canal, which takes its principal supply from the Sacramento River at Hamilton City and a limited supplemental supply from Stony Creek. The canal is now managed by the Glenn-Colusa Irrigation District, the largest irrigation district in Northern California. In 1980, an estimated 462,600 acre-feet of water were transported and delivered to Colusa County via the Glenn-Colusa Canal. Water for the Tehama-Colusa Canal, located west and parallel to the Glenn-Colusa Canal, comes from the Sacramento River at the Red Bluff Diversion Dam. Management of the irrigation water supply is discussed in the Community Services Element of this Plan.

Water Project Proposals

The Bureau of Reclamation has considered the reformulation of the West Sacramento Canal unit, which includes the Tehama-Colusa Canal. A 1964 feasibility study proposed an extension of the Tehama-Colusa Canal through Yolo County, in order to supply additional water to portions of Napa, Solano and Yolo Counties. The project also proposed several storage facilities, including a reservoir at Sites.

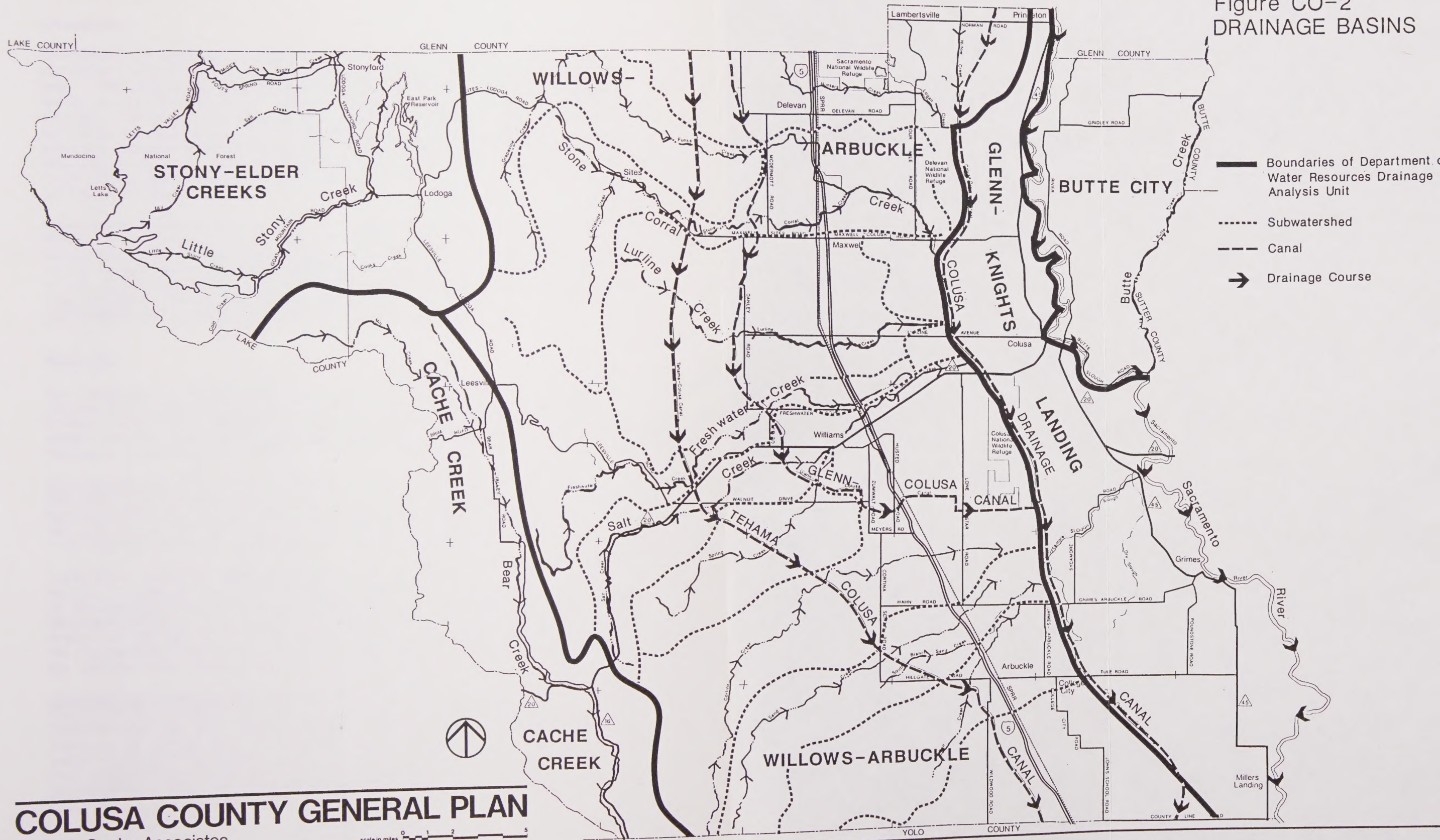
Work on this project was suspended for a time, and a 1981 feasibility study concluded that the project was not justified economically. Municipal and industrial demand for the project was justified, but demand for irrigation water was not. The 1981 study did conclude, however, that the Sites Reservoir could be used for Central Valley Project Water Storage, to be used to meet flow commitments in the Sacramento-San Joaquin Delta and for future growth. The study estimated that the reservoir could contain more yield than would be required before the year 2010.

The proposal would involve delivery of surplus flows from the Tehama-Colusa Canal into the existing 1,170-acre-foot Funks Reservoir near Maxwell. This water would then be pumped to the proposed Sites Reservoir, which would hold 1,665,000 acre-feet of water (active capacity) for release during the dry season. The Sites Reservoir would have a maximum capacity of 1.8 million acre-feet, and would require a minimum of 135,000 acre-feet. Water would be contained by two dams and 12 dikes.

During a critical drought period (estimated using an extended dry period from May 1928 to December 1934), average annual runoff into Sites Reservoir would be only about 4,000 acre-feet, all of which would be needed to meet downstream commitments.

The Bureau of Reclamation makes no mention of water deliveries to Colusa County. Construction of the reservoir would eliminate the town of Sites, and would require relocation of the Sites-Lodoga Road. The lack of benefits for Colusa County, together with the project's obvious social and environmental effects, suggest that the County should not support its construction. Furthermore, there is no demonstrated need for the project at this time.

Figure CO-2
DRAINAGE BASINS



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

Groundwater

Groundwater is contained in underground formations called aquifers. The easterly portion of Colusa County is part of the Sacramento Basin, an extensive groundwater body. The principal sources of groundwater in the basin are geologic formations known as the Plio-Pleistocene Tehama Formation and the overlying Quaternary alluvium. The alluvium consists of recent alluvium to a depth of 100 feet, underlain by Pleistocene channel deposits to a depth of 200 feet. Groundwater in this area is generally unconfined, which means that it is free-flowing. The recent alluvium is saturated much of the year, as it absorbs water from rainfall and the overflow of small creeks. Areas of older alluvium and the Cretaceous rocks of the foothills do not bear much water.

Groundwater flows from the north in a southeast direction to the Sacramento River. In the winter groundwater recharge occurs primarily by deep percolation of precipitation and stream water. Groundwater levels in the county usually drop during the summer but are recharged during the rainy season. Most recharge occurs in the northern Sacramento Valley, in Glenn and Tehama Counties where rainfall is more abundant. During the summer, applied irrigation water also infiltrates to the groundwater basin, raising questions about groundwater quality.

Water Use

The Department of Water Resources, which analyzes water statewide, has assembled data regarding agricultural and urban water use in Colusa County. Agriculture is the greatest water user in the county. Most agricultural operations are supplied with water from the Glenn-Colusa and Tehama-Colusa Canals, which is less expensive than pumping groundwater. Urban water is entirely pumped groundwater.

Agricultural Use. Table CO-1 lists the amount of irrigated land for certain crops in the county. Rice accounts for nearly half of the county's irrigated farmland, which totals 287,700 acres. The Willows-Arbuckle Detailed Analysis Unit (see Figure CO-2) accounts for most of the irrigation. Glenn-Knights Landing DAU and Cache Creek DAU together contain an insignificant amount of irrigated land.

Table CO-2 illustrates expected future irrigated lands by crop. According to this source, irrigated acreage is expected to increase slightly during the period covered by the General Plan. However, the acreage actually dropped in 1985, due partly to decreased demand for rice. Because much of the rice-growing lands are poorly drained and not well suited to other crops, the decreased demand for irrigated land in the Colusa Basin could continue. This decrease may be offset by increased demand for Tehama-Colusa Canal water on the west side of the valley.

Municipal and Industrial Use. Groundwater is the source for all urban water use in Colusa County. As shown in Table CO-3, municipal and industrial water use totaled 3,400 acre-feet in 1980. This figure is not expected to increase significantly; it is important to note, however, that the Department of Water Resources projection of water use for 2010 is based on a population of just over 17,000 (less than the General Plan projection) and decreased per-capita figures (see Table CO-4). Nevertheless, groundwater supplies are expected to be adequate to meet future demand.

Table CO-1: Colusa County Irrigated Acreage, 1980 (in 1,000s)

Crop	Drainage Analysis Unit					County Total
	DAU 139 ¹	DAU 163 ²	DAU 164 ³	DAU 167 ⁴	DAU 175 ⁵	
Grain	0.2	29.0	30.0	4.7	0	63.9
Rice	0	92.0	30.0	16.0	0	138.0
Sugar Beets	0	3.5	3.0	0.5	0	7.0
Corn	0	8.9	2.9	1.0	0	12.8
Other Field ⁶	0	15.8	12.4	4.0	0	32.2
Alfalfa	0	2.6	3.0	0.3	0	5.9
Pasture	0.5	3.7	1.0	0.1	0	5.3
Tomatoes	0	2.6	2.4	1.0	0	6.0
Other Truck ⁷	0	9.1	1.5	1.4	0	12.0
Almonds	0	16.3	0.1	0	0	16.4
Other Deciduous ⁸	0	1.4	5.5	3.7	0	10.6
Grapes	<u>0</u>	<u>0.1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.1</u>
Total Crop Acres	0.7	185.0	91.8	32.7	0	310.2
Double Crop	<u>0</u>	<u>12.0</u>	<u>7.0</u>	<u>3.5</u>	<u>0</u>	<u>22.5</u>
TOTAL IRRIGATED LAND AREA	0.7	173.0	84.8	29.2	0	287.7

¹Stony-Elder Creek (139)

²Willows-Arbuckle (163)

³Glenn-Knights Landing (164)

⁴Butte City (167)

⁵Cache Creek (174)

⁶includes milo, sudan, dry beans, safflower, and sunflower

⁷primarily melons, squash, cucumbers, and onions

⁸primarily prunes and walnuts

Source: Department of Water Resources, Land and Water Use in Colusa County, April 1987.

Table CO-2: Colusa County Historic and Projected Irrigated Acreage (in 1,000s)

<u>Crop</u>	<u>1960</u>	<u>1972</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>
Grain	0	5.0	63.9	59.2	60.2	61.2
Rice	73.9	90.0	138.0	153.0	153.0	153.0
Sugar Beets	10.1	16.0	7.0	7.2	7.2	7.5
Corn	0.2	0.3	12.8	12.2	12.4	12.7
Other Field ¹	19.9	24.7	32.2	33.3	34.4	36.3
Alfalfa	16.8	6.3	5.9	6.9	6.9	7.0
Pasture	15.1	5.7	5.3	4.8	4.4	4.1
Tomatoes	1.8	4.2	6.0	6.5	6.6	6.7
Other Truck ²	1.0	6.3	12.0	13.0	14.0	15.0
Almonds	13.1	16.4	16.4	14.8	14.8	14.8
Other Deciduous ³	7.8 ⁴	11.1	10.6	11.2	11.2	11.2
Grapes	<u>0</u>	<u>0</u>	<u>0.1</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Crop Acres	159.7	186.0	310.2	322.1	325.1	329.5
Double Crop	<u>0</u>	<u>2.0</u>	<u>22.5</u>	<u>26.5</u>	<u>28.5</u>	<u>31.5</u>
TOTAL IRRIGATED LAND AREA	159.7	184.0	287.7	295.6	296.6	298.0

¹includes milo, sudan, dry beans, safflower, and sunflower

²primarily melons, squash, cucumbers, and onions

³primarily prunes and walnuts

⁴includes 56 acres of olives

Source: Department of Water Resources, Land and Water Use in Colusa County, April 1987.

Table CO-3: Population, Municipal Water Use, and High Water Using Industrial Water Use in Colusa County (in 1,000s or 1,000s of acre-feet)

Drainage Analysis Units	Popula- tion ¹	Gross Water Use ²	Net Water Use ³	Popula- tion	Gross Water Use	Net Water Use	Popula- tion	Gross Water Use	Net Water Use	Popula- tion	Gross Water Use	Net Water Use
Stony-Elder Creek (139)	0.2	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.	0.4	0.1	0.1
Willows-Arbuckle (163)	6.5	1.6	0.8	6.9	1.6	0.8	7.3	1.6	0.8	8.1	1.7	0.9
High Water Using Industrial:		0.1	0.1		0.2	0.1		0.2	0.1		0.2	0.1
Glenn-Knights Landing (164)	5.6	1.4	0.7	6.5	1.6	0.8	7.2	1.6	0.8	8.0	1.7	0.9
High Water Using Industrial:		0.1	0.1		0.1	0.1		0.1	0.1		0.1	0.1
Butte City (167)	0.4	0.1	0.1	0.4	0.1	0.1	0.5	0.1	0.1	0.5	0.1	0.1
Cache Creek (174)	0.0 ⁴	--	--	0.0 ⁴	--	0	0.1	0.0 ⁴	--	0.1	0.0 ⁴	--
Subtotal:												
Municipal:		3.2	1.7		3.4	1.8		3.4	1.8		3.6	2.0
High Water Using Industrial:		0.2	0.2		0.3	0.2		0.3	0.2		0.3	0.2
TOTAL	12.7	3.4	1.9	14.0	3.7	2.0	15.4	3.7	2.0	17.1	3.9	2.2

¹reflects Department of Finance projections

²gross water use calculated by multiplying total population by established per-capita water use values (see Table CO-4)

³net water use is an estimate of consumptive use and irrecoverable losses

⁴less than 50

Source: Department of Water Resources, Land and Water Use in Colusa County, April 1987

Table CO-4: Per-Capita Municipal Water Use Values and Annual High Water Using Industrial Water Use Values for Colusa County

Drainage Analysis Units	Municipal Water Use ¹							
	1980		1990		2000		2010	
	<u>GPCD</u> ¹	<u>AFPCY</u> ²	<u>GPCD</u>	<u>AFPCY</u>	<u>GPCD</u>	<u>AFPCY</u>	<u>GPCD</u>	<u>AFPCY</u>
Stony-Elder Creek (139)	200	0.223	190	0.212	180	0.201	170	0.190
Willows-Arbuckle (163)	220	0.246	210	0.234	200	0.223	190	0.212
Glenn-Knights Landing (164)	220	0.246	210	0.234	200	0.223	190	0.212
Butte City (167)	220	0.246	210	0.234	200	0.223	190	0.212
Cache Creek (174)	<u>200</u>	<u>0.223</u>	<u>190</u>	<u>0.212</u>	<u>180</u>	<u>0.201</u>	<u>70</u>	<u>0.190</u>

	High Water Using Industrial ⁴			
	<u>1980</u> <u>acre-feet</u>	<u>1990</u> <u>acre-feet</u>	<u>2000</u> <u>acre-feet</u>	<u>2010</u> <u>acre-feet</u>
Willows-Arbuckle (163)	100	200	200	200
Glenn-Knights Landing (164)	100	100	100	100

¹Municipal water use includes all commercial, residential, and light industrial water use within a drainage analysis unit. It does not include high water using industrial.

²GPCD = gallons per capita per day

³AFPCY = acre-feet per capita per year

⁴High water using industrial is calculated on an annual basis.

Source: Department of Water Resources, Land and Water Use in Colusa County, April 1987.

Table CO-5 illustrates water inflow and outflow for the largest drainage analysis units in the county. The important point to note from this table is the large amount of outflow from the county, which implies there is excess water capacity yet to be utilized. However, it should also be noted that this excess capacity could be easily consumed if large-scale industrial development occurs in the county. The DEIR for Williams Industrial Properties, which represents just one-fifth of the land designated for industry in the county, indicated that the project could consume 2.7 million gallons of water per day when fully developed. This is equivalent to the average daily water consumption of the entire city of Colusa during the peak month of July.

Wildlife Refuges. The Sacramento Valley wetlands, including Colusa County's wildlife refuges, comprise a critical part of the Pacific Flyway. The refuges receive a limited amount of water from the Bureau of Reclamation's Central Valley Project canals. Because the Bureau does not recognize wildlife as a "beneficial use" of its water, and because the Bureau is not legally committed to supply that water, the future of these wintering grounds is not assured. This is true throughout California, where each wetland area is critical to the annual migration. The amount of wetlands in the state have diminished considerably in this century, and only a small portion of the remaining wetlands are publicly owned.

The three wildlife refuges in Colusa County encompass 12,000 acres, or 1.6 percent of the county. The US Fish and Wildlife Service has proposed that some 5,000 acres of additional land be acquired as part of a new 18,000-acre refuge along the Sacramento River. Their proposal has met strong local opposition, primarily because of its impact on agriculture.

Water Quality

In general, Colusa County's surface water and groundwater supplies are thought to be of good quality for agricultural and domestic use. Several studies have been conducted on water supplies downstream and upstream of the county to determine the effects of agriculture herbicides and pesticides, and to assure that drinking water is safe. Although these studies have uncovered isolated problems, water quality on the whole is good.

Surface Water. Contamination of irrigation runoff with residues of rice-growing herbicides has led to concern over downstream water quality in the Sacramento River. These herbicides--Ordram, Bolero, and Basagran--are commonly used by rice-growers for weed abatement purposes. Monitoring studies conducted by the Department of Fish and Game and others have shown that fish losses in the Colusa Basin Drain and chemical residues in drinking water are due in part to contamination from the herbicides. In 1982, various state agencies and the Rice Industry began efforts to mitigate these problems. The Departments of Health Services and Fish and Game set action guidelines to protect public health and aquatic life, while the Department of Food and Agriculture (DFA) established a rice herbicide control program, which is administered by the local Agricultural Commissioner.

In 1986 Basagran was detected in Sacramento River water for the first time. Residues of this herbicide were also found in Sacramento city tap water. In response, the DFA strengthened its herbicide control program, and expanded it to include Basagran. The program basically limits herbicide sales and requires irrigation water holding periods.

Table CO-5: Water Supply and Use (TAF = Thousands of Acre-Feet)

Conservation-15

<u>Drainage Analysis Unit/Supply</u>		<u>Depletion</u>		<u>Outflow</u>	
Willows-Arbuckle (163)					
Total Supply:	774.1	Total Depletion:	499.6	Total Outflow:	274.5
o Surface Supply	602.6	o E-T of Applied Water	398.4	o Yolo County	274.5
-- Tehama-Colusa Canal	(50.3)	o Riparian & Conveyance E-T	35.1	-- DAU 163	(174.5)
-- Wildlife Refuge	(44.4)	o Percolation	66.1	-- DAU 164	(100.0)
-- Sacramento River Diversions	(498.2)				
o Ground Water	96.5				
o Drainage Inflow (DAU 163 Glenn County)	75.0				
Glenn-Knights Landing (164)					
Total Supply:	381.1	Total Depletion:	241.5	Total Outflow:	139.5
o Surface Supply	215.6	o E-T of Applied Water	195.7	o Yolo County and Colusa Basin Drain	139.5
-- Wildlife Refuge	(7.0)	o Riparian & Conveyance E-T	4.3		(174.5)
-- Sacramento River Diversions	(208.6)	o Percolation	41.5		
o Ground Water	84.3				
o Drainage Inflow (DAU 163 Glenn County)	81.1				
Butte City (169)					
Total Supply:	213.1	Total Depletion:	102.7	Total Outflow:	110.4
o Surface Supply	80.3	o E-T of Applied Water	85.5	o Butte Creek	110.4
-- Sacramento River Diversion 1004	(62.9)	o Riparian & Conveyance E-T	8.9	-- (with 89.8 TAF from Butte Creek DAU 166; outflow to Sutter Co. DAU 165 or 166 is 105.3 TAF; spill to Butte Creek outfall is 94.9 TAF)	
-- Small Sacramento River Diversion	(17.4)	o Percolation	8.3		
o Ground Water	15.8				
o Drainage Inflow	117.0				
-- DAU 166 Glenn County	(43.0)				
-- DAU 166 Butte County	(56.4)				
-- DAU 167 Glenn County	(17.6)				

Note: DAUs 139 and 174 are not included

Source: Department of Water Resources, Land and Water Use in Colusa County, April 1987.

Also in 1986, California voters passed Proposition 65, the Safe Drinking Water and Toxics Enforcement Act, which prohibits businesses from discharging chemicals that cause cancer or reproductive damage into the drinking water supply, unless the business can prove that the chemical doesn't pose a significant risk. The Governor has compiled a list of 29 known chemicals, which was to be published in 1988. The effects of Proposition 65 on agriculture remain to be seen.

The State Water Resources Control Board has been studying the Sacramento River since 1984 through its toxic substances monitoring program. Molinate and Thiobencarb, which are associated with rice herbicides, were detected in various places, particularly north of Sacramento. Heavy metals were also detected. These were attributed to runoff from inactive mines on a tributary of the river near Redding.

The Central Valley Regional Water Quality Control Board recently performed an assessment of the water quality within its jurisdiction (Beneficial Use Assessment Final Report, 1986). This study noted the presence of pesticides, PCBs, and excessive sediments in the Sacramento River drainage system in Colusa County. The presence of the pesticides was attributed to agricultural runoff. Erosion of the surrounding foothills was seen as the cause of sedimentation. Rice herbicide control programs have reduced the levels of pesticides in the water, but the source of the PCBs is unknown.

Groundwater. Groundwater quality in the Sacramento Valley as a whole is considered good for irrigation and domestic uses. The State Department of Water Resources (DWR) monitors domestic and agricultural wells for mineral content, primarily naturally occurring heavy metals. The DWR's primary concern relative to water quality in Colusa County is high concentration of boron in some irrigation water and high concentrations of nitrates and chloride in some domestic water. The DWR has found that areas with higher than normal concentrations of nitrates are generally associated with sewage effluent as opposed to pesticides and herbicides. According to the DWR there are presently no critical water quality problems in the County. The Central Valley RWQCB found no confirmed evidence of groundwater contamination in drinking water well tests that were recently conducted. However, higher than normal concentrations of several constituents have been found in certain areas of the county, including the area along the Sacramento River between Colusa and Grimes which contained high concentrations of sodium and sulfate (USGS and DWR, Investigation 77-133). In other instances, particularly where domestic wells are in close proximity to septic systems, nitrate contamination has been recorded by the Environmental Health Department.

Injection Wells. There are currently two active injection wells located in Colusa County. These wells are used to dispose of saline water which is drawn up during the extraction of natural gas. Due to the uncertainty over potential groundwater contamination from these wells, the County Planning Commission is requiring further environmental analysis prior to allowing further development of injection wells. Two additional wells have been approved, but will be subject to a series of mitigating measures specified by the county.

Wildlife Refuges. There is a high potential for future water quality problems in the refuges due to their proximity to agricultural uses and to the naturally occurring mineral content of the soil. The Fish and Wildlife Service rates the water quality conditions of National Wildlife Refuges on a scale of A to D. A rating of "A" indicates that serious on-site water quality problems at a refuge have been docu-

mented and that immediate attention to water quality problems is necessary. A rating of "D" indicates that no water quality problems exist and there is little potential for future water quality problems. The three refuges in Colusa County are given a rating of "C," indicating that there is "on or off-site circumstantial evidence indicating priority need for additional reconnaissance monitoring." The Fish and Wildlife Service is currently planning for this monitoring; however, no plans have actually been implemented.

AIR QUALITY

Colusa County is located within the Sacramento Valley Air Basin, as designated by the California Air Resources Board (ARB). Air quality problems in the county are primarily related to the practice of rice burning. The Air Pollution Control District office in Sacramento decides how much burning to allow in the valley throughout the year. This agency notifies each county of the number of acres which may be burned. The Director of Colusa County's local Air Pollution Control District relays the information to the local fire departments. Burn days and no-burn days are designated according to regional weather patterns and pollutant levels. Most of the burning occurs during a 3-month period in spring and a 3-month period in fall. Fire officials have a list of rice farmers who have requested permission to burn their fields. The Colusa County Board of Supervisors is currently reviewing a county burning law which will both fine and jail illegal burners.

Dust from agricultural operations such as rice driers also contributes to overall pollutant levels in the County. This activity often occurs at the same time as the autumn burn period. Wildfires in the forests of the Sierra Nevada and the Mendocino National Forest also affect Colusa County's air quality. Nevertheless, overall air quality in the County is relatively good.

The Air Resources Board operates three monitoring stations within the County. Two are within the city of Colusa, and one is located in Arbuckle. Pollutant levels measured in the two communities are similar. Countywide levels are fairly low. The only pollutants currently monitored at these stations are ozone, ten-micron¹ particulates, ten-micron sulfate, and 10-micron nitrate (see Table CO-6).

VEGETATION

Colusa County supports five major plant communities: wetlands, including vernal pools and riparian vegetation, valley grassland, chaparral, foothill woodland, and pine-fir forest (Munz and Keck 1968). In addition, there are scattered pockets of mature riparian forests, and northern interior cypress forests. Figure CO-3 shows the general distribution of vegetation in the county.

¹At least 10 microns in diameter.

Table CO-6: Colusa County Air Quality Data 1984-85

<u>Pollutant</u>	<u>State Standards</u>	<u>National Standards</u>
Ozone	.10 ppm. ¹ hourly	.12 ppm. hourly
Ten-micron particulates (pm ₁₀)	50 micrograms per cubic meter, 24-hour	none
Sulfates	25 micrograms per cubic meter, 24-hour	none
Ten-micron NO ₃ (nitrate ₁₀)	25 micrograms per cubic meter total SO ₄ , 24-hour	none

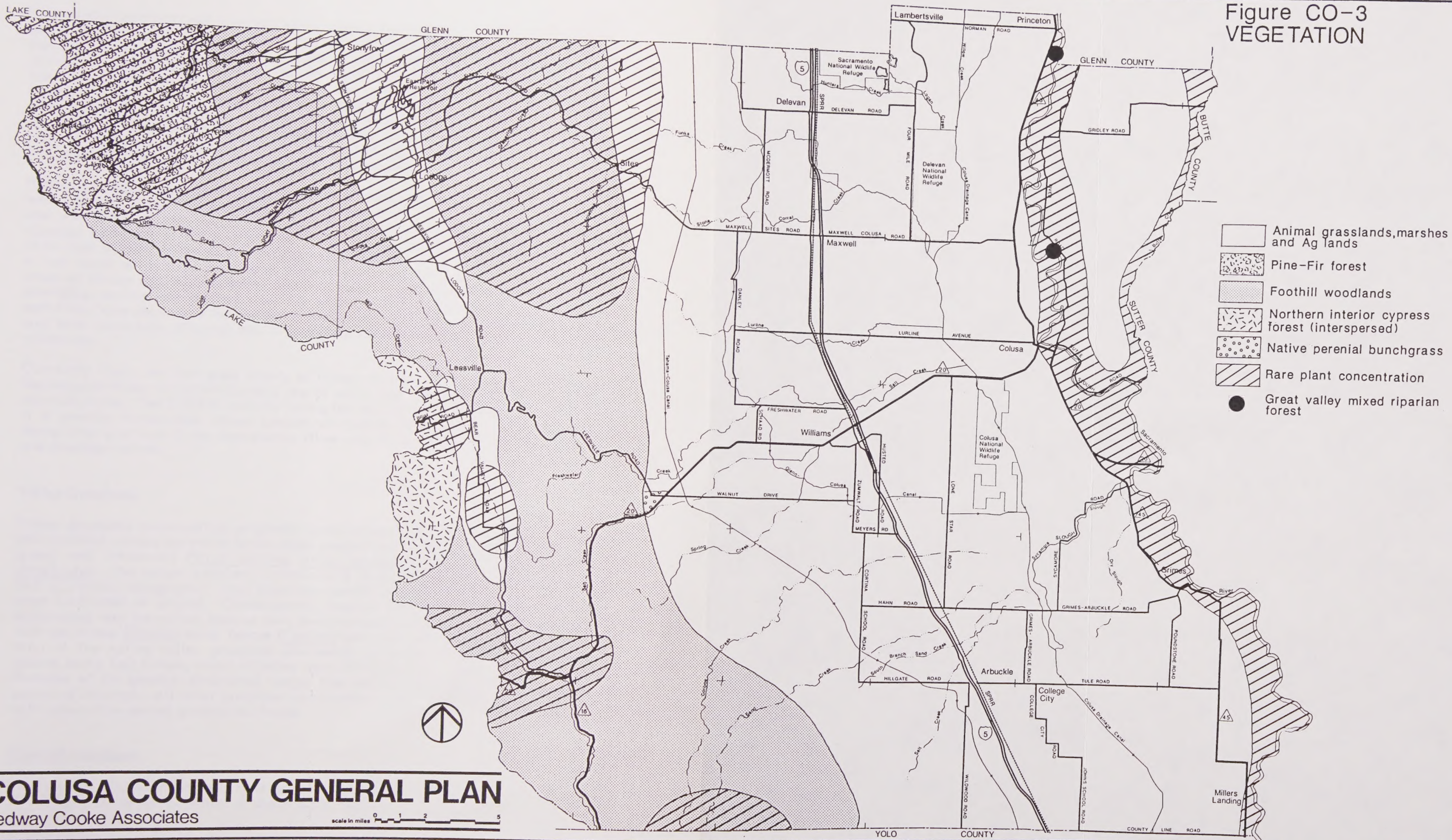
<u>Ozone</u>	<u>1984</u>	<u>1985</u>
Daily Maximum Hourly Concentration	.11	.11
Mean Concentration of All Hours	.034	.030

<u>Ten-Micron Pollutant</u>	<u>Highest Annual 24-hour concentration</u>	<u>Number of Samples Greater than 50²</u>
Particulates ₁₀	90	2
Sulfate ₁₀	1.7	--
Nitrate ₁₀	2.3	--

¹parts per million

²micrograms per cubic meter

Figure CO-3
VEGETATION



Wetlands

Freshwater wetlands and marshes are primarily found along the Sacramento River and in the National Wildlife Refuges, flooded rice fields also serve as wetlands during parts of the year. Seasonally wet pockets of vegetation can be found throughout the county. Known as vernal pools, they are local depressions which fill with water in the winter and dry slowly in the spring and summer. They are of considerable scientific and aesthetic interest because they often support rare plants or unique wildlife species. Spectacular displays of spring color can be observed at the edges of the pools as they dry. Northern hardpan vernal pools are listed on the California Natural Diversity Data base (CNDDDB) as a priority B1.2 natural community. This indicates that these communities are rare and threatened.

Riparian woodlands are located along stream channels and river courses. These areas were once very plentiful but have been diminished by cultivation of the flood plain and alteration of the river. Only 12,000 acres of the original 800,000 acres of riparian woodland in the Sacramento Valley remain today. Riparian vegetation is often lush in comparison to surrounding areas, and may form a corridor as narrow as a few yards or as wide as several hundred yards occupied by oak and cottonwood trees or shrubs such as blackberry and wild rose. These areas are very important in providing nesting and feeding sites for wildlife. Flood control and channelization activities have decreased the extent of these habitats throughout the Central Valley and have adversely affected the hydrological conditions which contribute to their existence.

Currently there are two good stands of mixed riparian forest remaining along the Sacramento River in Colusa County, one of which also includes stands of alluvial and riparian herbs. The CNDDDB priority rating for this community is BU, indicating that it is possibly threatened. Minor pockets of riparian forest and herbs may be found along other portions of the Sacramento River and along several of the County creeks and drainage canals.

Valley Grassland

Valley grassland communities originally occupied much of the entire Central Valley and included various perennial bunch grass species such as needle grass, bunch or blue grass, and three-awn (Stipa pulchra, Stipa cernua, Poa scabrella, and Aristida divaricata). The valley grassland community is characterized by a lack of trees and flat or rolling topography. This plant community occupies lands which have since been cultivated or grazed. Consequently, most of the perennial grasses have been eliminated, and the native species have been replaced with introduced annual species such as brome (Bromus spp.), fescue (Festuca spp.), and oats (Avena spp.). Only one area of the native valley grassland community is known in Colusa County. This occurs along Salt Creek, about 10 miles west of Williams, as shown on Figure CO-3. Because of its greatly diminished range, this native plant community is of great botanical interest. All other grassland communities in the county are heavily infused with non-native annual grasses and forbs.

Foothill Woodland

The foothill woodland community is present throughout most of the western half of the county, up to an elevation of about 4,500 feet. It is characterized by scattered

trees with an undergrowth of grasses and shrubs. Common tree species include blue oak (Quercus douglasii), interior live oak (Quercus wislizenii), digger pine (Pinus sabiniana) and California buckeye (Aesculus californicus). Buck brush (Ceanothus coneatus), poison oak (Rhus diversiloba), and bush lupine (Lupinus sp.) are common shrubs.

Chaparral

The chaparral community appears in Colusa County interspersed with the foothill woodland community. It typically occurs where local soil conditions are not favorable for significant tree growth (often on serpentine soils), and at lower elevations. Chaparral is characterized by shrubs such as chaparral pea (Pickeringia montana), chamise (Adenostoma fasciculatum), manzanita (Arctostaphylos spp.), and toyon (Heteromeles arbutifolia). Interior live oak (Quercus wislizenii), scrub oak (Quercus dumosa), fescue grasses (Festuca spp.), poison oak (Rhus diversiloba), California lilac (Ceanothus parryi), sagebrush (Artemisia douglasiana), and coyote brush (Baccharis pilularis) are also part of the chaparral community.

Pine-fir Forest

The northwest corner of the county contains pockets of mixed pine and fir forest. Major tree species are ponderosa pine (Pinus ponderosa), sugar pine (P. lambertiana), douglas fir (Pseudotsuga menziesii), white fir (Abies concolor), and black oak (Quercus kelloggii). Small pockets of northern interior cypress forest are located near the Lake County border in the vicinity of Baldy Mountain.

Rare Plant Species

There are several rare, endangered, or candidate plant species which are present in Colusa County¹. These include:

- o Indian Valley brodiaea, Brodiaea coronaria
- o Palmate-bracted bird's beak, Cordylanthus palmatus
- o Brandegee's eriastrum, Eriastrum brandegeae
- o Tracy's eriastrum, Eriastrum tracyi
- o Erigonum nervulosom, Erigonum nervulosum
- o Diamond-petaled California poppy, Eschscholzia rhombipetala
- o Adobe lily, Fritillaria pluriflora
- o Drymaria-Lake dwarf flax, Hesperolinon drymarioides
- o California hibiscus, Hibiscus Californicus
- o Few-flowered navarretia, Navarretia pauciflora
- o Colusa grass, Neostapfia colusana
- o Lake County stonecrop, Parvisedum leiocarpum
- o San Francisco champion, Silene verecunda ssp. verecinda

Table CO-7 shows the status of each of these plants (Smith and York 1984, U.S. Fish and Wildlife Service 1984a, 1985b; California Department of Fish and Game 1984,

¹ These plants have actually been located in the county; their specific locations have been plotted on USGS Quad Sheets by the State Dept. of Fish & Game.

Table CO-7: Status of Plant Species of Special Concern Found in and Around Colusa County

	STATUS			
	<u>Federal</u>	<u>State</u>	<u>CNDDDB Priority</u>	<u>CPNS List</u>
<u>Brodiaea coronaria ssp.</u> Rosea Indian Valley brodiaea	C2	E	B1.1	IB
<u>Cordylanthus palmatus</u> Palmate-bracted bird's beak	C1	E	A1.1	IB
<u>Eriastrum tracyi</u> Tracy's eriastrum	C2	-	B1.2	IB
<u>Ergonum nervulosum</u> Ergonum nervulosom	C2	R	B3.1	IB
<u>Eschscholzia rhombipetala</u> Diamond-petaled California poppy	C2	-	A1.1	IB
<u>Fritillaria pluriflora</u> Adobe lily	C2	-	B2.1	3
<u>Hesperolinon drymarioides</u> Drymaria-like dwarf-flax	--	-	B1.1	IB
<u>Hibiscus californicus</u> California hibiscus	C2	-	B1.1	IB
<u>Lupinus milo-baker</u> milo Baker's lupine	T			
<u>Navarretia pauciflora</u> Few-flowered navarretia	C2	-	A1.1	IB
<u>Neostapfla colusana</u> Colusa grass	C2	E	B1.1	IB
<u>Parvisedum Leiocarpum</u> Lake Co. stonecrop	C2	-	A2.1	IB
<u>Silene vercunda ssp. Verecunda</u> San Francisco campion	C2	-	BU	IB

Federal: C1 = Candidate Endangered, Category 1; C2 = Candidate Endangered, Category 2

State: E = Endangered; T = Threatened; R = Rare

CNDDDB PRIORITY: A1.1 = Extremely rare, endangered, and unprotected species

A1.2 = Extremely rare and threatened species

A2.1 = Very rare, endangered, and unprotected species

A2.2 = Very rare, and threatened species

B1.1 = Rare and endangered species or extremely rare, endangered or threatened subspecies

B1.2 = Rare and threatened species or very rare, endangered or threatened subspecies

B2.1 = Uncommon and threatened species or rare and endangered subspecies

B2.2 = Rare and not threatened, or peripheral and endangered in California only, species or rare and threatened subspecies

B3.1 = Uncommon and declining, or peripheral and threatened in California only, species or uncommon and threatened, or peripheral and endangered in California only, subspecies

B3.2 = Wide-spread and declining species or uncommon and declining, or peripheral and threatened in California only, subspecies

BU = Possibly threatened, needs more information

CNPS LIST: 1 = Plants rare and endangered in California and elsewhere; 3 = Plants about which we need more information

CNDDDB 1986). Three species, Indian Valley brodiaea, palmate-bracted bird's beak, and Colusa grass are listed as endangered by the State of California. Tracy's eriastrum is listed as rare. All other plants listed are candidate species which are not currently provided legal protection but which may be listed in the near future. Rare plant concentration areas include the serpentine outcrops of the west county, the Sacramento River, Butte Creek, and the National Wildlife Refuges.

WILDLIFE REFUGES

There are three National Wildlife Refuges (NWR) in Colusa County: Colusa NWR, Delevan NWR, and Sacramento NWR. Butte Sink, located just across the Sutter-Colusa County border, is also an important area for waterfowl. The refuges represent a small portion of the vast grasslands, seasonal marshes, and swamps that were once common in the Sacramento Valley. In the mid-19th century, California had over 5 million acres of wetlands. By the 1920s, the number fell to 1.2 million acres. Today, there are only 410,000 acres, of which 300,000 acres are privately owned and 80,000 acres are in state and federal wildlife refuges. The refuges in Colusa County total about 12,000 acres--15 percent of the State's refuge total--and are administered by the U.S. Fish and Wildlife Service.

Many of the ducks and geese wintering in the Sacramento Valley are reared in Alaska and the midwest region of North America. Most of the geese migrate from Alaska and the Canadian Arctic. Ducks begin arriving in increasing numbers in August and are joined by geese in September and October. Numbers may exceed 2 million by December, after the wetland areas of the Klamath Basin and other areas to the north become frozen. Pintails, mallards, widgeon, northern shoveler, green-winged teal, and snow, Ross, white-fronted, and cackling Canada geese are most commonly seen during these months, but the careful observer can find many others. Waterfowl numbers gradually decline in February and March, leaving a few hundred mallards and cinnamon teal, and a smaller number of wood ducks, ruddy ducks, and several species of shorebirds to rear young during the summer months.

The marshes, with readily available fish and invertebrates, are also attractive to grebes, white pelicans, egrets, herons, and bitterns. Shorebirds can be seen any month of the year. Raptors find an abundance of rodents or small birds on which to feed. Woodpeckers, warblers and other passerine birds can be seen in the cottonwoods and willows bordering irrigation ditches and creeks. Although managed mainly for migratory waterfowl, the refuges are attractive to other forms of wildlife, including 29 known species of mammals, four species of reptiles, two species of amphibians, and 12 species of fishes.

Rice farms also provide some habitat for migrating birds. Many of the farms are flooded after harvest and leased to duck-hunting clubs. Rice is also grown on the wildlife refuges, partly to deter migrating birds from feeding on privately-owned rice farms before harvest. The rice on refuges and the stubble left on farms after harvest does provide food for water birds. However, many of the wetlands are only flooded during the hunting season, which does not permit the growth of other plants which are essential food source.

FISH AND WILDLIFE

General

Colusa County's plant communities support a variety of wildlife habitats, as shown in Figure CO-4. The annual grassland habitats support bird species such as the red-tailed hawk (Buteo jamaicensis), American kestrel (Falco sparverius), American crow (Corvus brachyrhynchos), yellow-billed magpie (Pica nuttalli), and a variety of songbirds. Common mammals include the deer mouse (Peromyscus maniculatus), striped skunk (Mephitis mephitis), California ground squirrel (Spermophilus beecheyi), and Botta's pocket gopher (Thomomys bottae).

Foothill woodland and chaparral habitats support species such as the screech owl (Otus asio), acorn woodpecker (Melanerpes formicivorus), opossum (Didelphis marsupialis), and western rattlesnake (Crotalus viridis).

Game birds, mammals and furbearers found in Colusa County include California quail (Callipepla californica), ring-necked pheasant (Phasianus colchicus), wild turkey (Meleagris gallopavo), western gray squirrel (Sciurus griseus), bobcat (Lynx rufus), raccoon (Procyon lotor), and gray fox (Urocyon cinereoargenteus). The marshes and refuges of the Sacramento River basin provide habitat for numerous species of migrating waterfowl including Mallard (Anas platyrhynchos), pintail (Anas acuta), and American widgeon (Anas americana). The range of the East Park-Capay deer (Odocoileus hemionus columbianus) stretches the length of the county and encompasses the grasslands west of Interstate 5 to the Lake County border.

Tule elk (Cervus elaphus nannoides) were transplanted into the Cortina Ridge area in 1922 in a statewide effort to increase their numbers. At that time, there were only about 200 Tule Elk known to exist in the state. Their numbers have since increased significantly, and they currently inhabit the steep canyons of the southwest county. Nonetheless, the Tule Elk is still a candidate for protection in California. Tule Elk have created some problems for local ranchers, and the California Department of Fish and Game has been studying the problem.

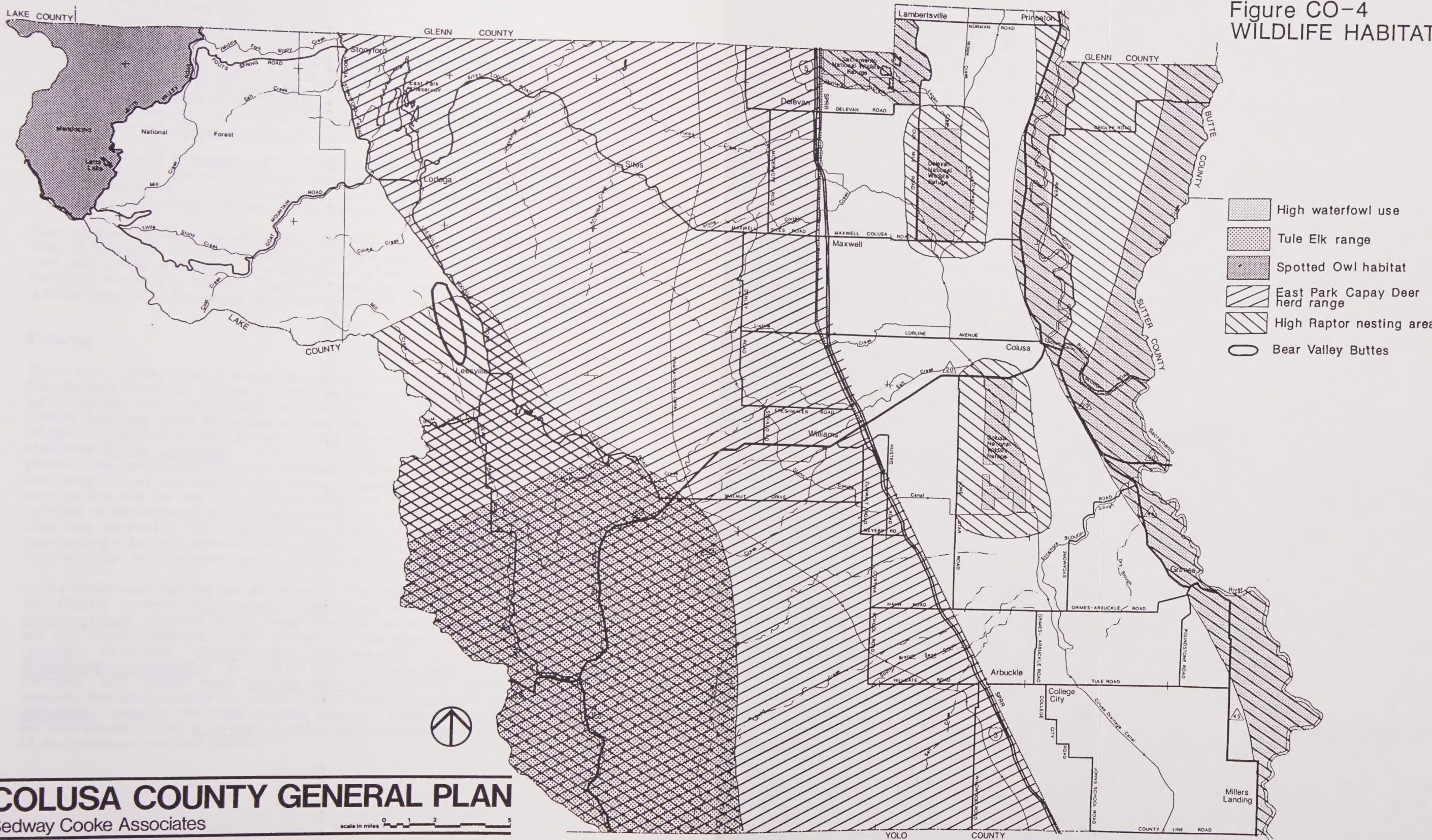
There are several areas of high raptor nesting in the county including the National Wildlife Refuges, the Sacramento River Corridor, and the Bear Valley Buttes.

Threatened and Endangered Wildlife

Several known and candidate threatened or endangered wildlife species can be found in Colusa County. The following is a list of these species with the listing agency's designation in parenthesis:

- o Valley elderberry longhorn beetle, Desmocerus californicus dimorphus, (FT)
- o Giant garter snake, Thamnophis couchi gigas, (ST, FC)
- o Western pond turtle, Clemmys marmorata, (FC)
- o Aleutian Canada goose, Branta canadensis leucopareia, (FE)
- o Greater sandhill crane, Grus canadensis tabida, (ST)
- o Swainson's hawk, Buteo swainsoni, (FC, ST)
- o Golden eagle, Aquila chrysaetos, (SC)
- o Bald eagle, Haliaeetus leucocephalus, (FE, SE)

Figure CO-4
WILDLIFE HABITAT



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

- o Peregrine falcon, Falco peregrinus, (FE, SE)
- o Prairie falcon, Falco mexicanus, (SC)
- o Cooper's hawk, Accipiter cooperi, (SC)
- o Spotted owl, Strix occidentalis, (SC, FSS)
- o Yellow-billed cuckoo, Coccyzus americanus occidentalis, (ST, FC)
- o Bank swallow, Riparia riparia, (SC)
- o Purple martin, Progne subis, (SC)
- o Lesser kangaroo rat, Dipodomys californicus eximus
- o San Joaquin pocket mouse, Perognathus inornatus, (FC)
- o Tule elk, Cervus elaphus nannoides, (SC)

(FE - Federal Endangered; FT - Federal Threatened; FC - Federal Candidate; FSS - Forest Service Sensitive Species; ST - State Threatened; SE - State Endangered; SC - State Candidate; U.S. Fish and Wildlife Service 1984, 1985; Department of Fish and Game 1985; Remsen 1978).

Most of these species are associated with riparian or wetland areas of the valley floor or foothills. The raptors can be found throughout the county, but also typically nest near creeks or streams. The spotted owl is found in the northwest corner of the county in the pine-fir forests. The small mammals, including the lesser kangaroo rat and San Joaquin pocket mouse, are found in remnant patches of native grassland.

Fisheries

The Colusa County Area is within the Central Valley Subsystem of the Sacramento-San Joaquin Province. Fishes endemic to this region include several anadromous salmonids and trout, now greatly reduced in numbers due to flow diversions and up-stream damming. Bank alteration has also been a significant factor in the reduction of spawning habitat for species such as king salmon (Oncorhynchus tshawytscha) and steelhead (Salmo gairdneri). To mitigate these problems, fish screens at pumping plants in the Sacramento River are designed to move anadromous fish upstream without being sucked into the pumping plant. However, a poorly designed fish screen, such as the one for the Glenn-Colusa Irrigation District near Hamilton City, has resulted in non-renewal of a dredging permit by the U.S. Corp of Engineers. This issue was resolved in 1987 when the Glenn-Colusa I.D. signed a memorandum of understanding with the California Dept. of Fish and Game to conduct a study for long-term solutions for river meander and fish screening problems at the pumping plant.

A few anadromous species are also found in other waterways in the county, including the Pacific lamprey (Entosphenus tridentatus) and white sturgeon (Acipenser transmontanus). Several native non-anadromous species present in the Colusa area are also found elsewhere. These include the Sacramento squawfish (Ptychocheilus grandis), hard-head (Mylopharodon conocephalus), and Sacramento sucker (Catostomas occidentalis). Introduced species form a major part of many of the fisheries, with striped bass (Morone saxatilis) being the dominant anadromous species. Various species of the sunfish family, such as largemouth bass (Micropterus salmoides), comprise the major resident species. Three introduced catfish species are also present. Carp (Cyprinus carpio) probably comprises the greatest percentage of the introduced resident species.

In the higher altitude streams, the California roach (Hesperoleucus symmetricus) is the primary native species, occasionally coexisting with Sacramento squawfish and Sacramento suckers. The larger streams are comprised of resident rainbow trout, occasional introduced brown trout (Salmo trutta), and several introduced species including smallmouth bass (Micropterus dolomieu), and green sunfish (Lepomis cyanellus). Still waters in these areas contain mostly introduced species including bass, catfish, and, most often, carp. According to a 1986 study by the California Department of Fish and Game, there is a possibility that the Thicktail Chub (Gila crassicauda) exists within the county. An endangered species which is thought to be extinct, the Thicktail Chub formerly was common in lowland waters of the Central Valley. It never has been recorded in the area (Clendenen & Associates 1980).

AGRICULTURE

Agriculture is the county's most distinguishing feature. It provides the physical and rural environment that local residents enjoy and dominates the economy of the county. Cropland and rangeland account for 60 percent of the county's total land area, and in 1985 produced \$141.6 million worth of goods. It is the county's foremost objective to preserve agricultural land and to promote practices that will conserve prime soils.

Soils and Erosion

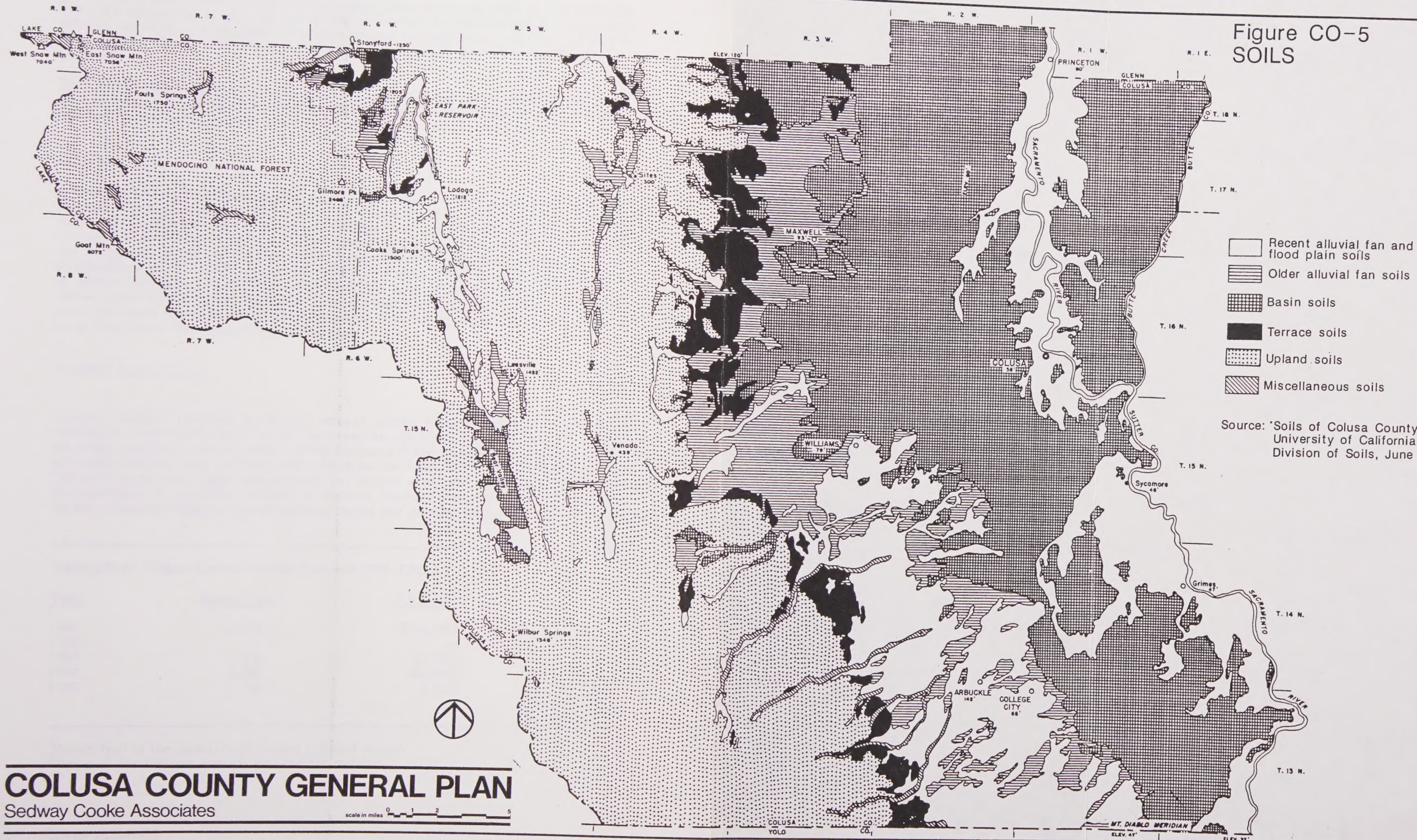
Agricultural soils in the county can be divided into four major classifications: recent alluvial fan and flood plain soils; older alluvial fan soils; basin soils; and terrace soils. Most of the soils are alluvial and originated either from runoff from the Coast Range mountains, or overflow from the Sacramento River. The extent of these soil types is shown in Figure CO-5. The last comprehensive soil study in the County was completed in 1947. The Soil Conservation Service is currently updating soils data and will have maps available by 1993.

The recent alluvial soils occupy a relatively thin strip along both sides of the Sacramento River and large areas east of the foothills and south of Williams. These soils have deep permeable profiles, but may have alkali (salt) problems in some areas due to poor drainage. They are still considered to be the best soils in the County. Most of the prune and walnut orchards are grown on these soils along the Sacramento River; south and east of Williams almonds and walnuts are grown. These soils are also used for a variety of field crops.

The basin soils make up the largest block of area in the county. They occupy most of the area in the northeast corner of the county between the Sacramento River and Butte Creek; and a large area on the west side of the river extending nearly to the foothills in the northern part of the county, narrowing to a 6-8 mile wide strip in the south. These soils are characteristically fine textured and poorly drained, thus alkali is a frequent problem. Rice production is the main use of the basin soils and is the number one crop grown in the County. Irrigated pasture and field crops are scattered throughout the area.

The older alluvial fans occur at the base of the foothills, mainly in the northern two-thirds of the county. These soils are characterized by moderately compacted and fine textured subsoils which restrict free penetration of water and roots. They are used to grow a variety of crops, both irrigated and non-irrigated.

Figure CO-5
SOILS



The terrace soils form a small discontinuous strip along the base of the foothills. They are comprised of very old valley soil which has not been buried by more recent alluvial material. These areas have been shaped by erosion to a more or less bench-like or terraced relief. Terrace soils are largely used for non-irrigated crops or pasture.

The uplands soils occupy the mountain and foothill areas in the western part of the county, and were formed from underlying bedrock. They are used mainly for range and forest, but grain or grass hay may be produced on very limited areas.

Erosion

Soil erosion may be defined as the loss of soil material from a specified land area through the action of wind and water. In Colusa County, erosion mainly occurs by water as it washes down the Coast Range and through the foothill drainages, including Stone Corral Creek, Lurline Creek, Freshwater Creek, and Salt Creek. The soil is pushed along the creeks which empty into the Colusa Drainage Canal and eventually washes into the Sacramento River. Figure CO-6 shows the general areas of erosion activity. According to the SCS, the areas most prone to erosion are the fallow grain fields in the foothills. The standard farming practice is to grow one year and leave the field fallow for two years. It is during the off years when there is no ground cover that topsoil is washed away.

TIMBER RESOURCES

Colusa County's forested areas are located within the immediate vicinity of the Mendocino National Forest, in the northwestern portion of the county. All timber harvesting activity occurs either within National Forest lands or on a single private operation located west of Stonyford. As shown on Table CO-8, the timber harvest in Colusa County has been inconsistent in volume over the past five years. The inconsistency is partially related to natural fluctuations; short-term demand for timber products tends to follow business cycles and interest rate fluctuations.

Table CO-8: Colusa County Timber Harvest 1981-1985

<u>Year</u>	<u>Board Feet</u> ¹	<u>\$ Value</u> ²
1981	2,156	\$436,000
1982	--	--
1983	436	37,000
1984	3,000	384,000
1985	50	2,000

¹Board feet is the quantity of timber cut and scaled.

²Value of the timber immediately before cutting.

Although statewide demand for timber is expected to increase in the future, Colusa County may not play a significant role in the increased production. Most of the forested areas within the county do not contain significant stands of harvestable timber. The Mendocino National Forest Land and Resource Management Plan proposes one-fifth of the National Forest land within Colusa County for modified and intensive timber harvesting activity. The balance of the forest is proposed for wildlife, chaparral, recreation, research natural areas and minimal management programs.

The Mendocino Forest Plan calls for a minor increase in timber harvesting in the county. Because most of the National Forest Land in Colusa County is already roaded, this change will not substantially affect traffic patterns. Each timber sale is also subject to further environmental analysis. Over the summer of 1987, fires burned nearly 6,000 acres of the Mendocino National Forest, including lands in Colusa County. Accordingly, the forest service is reassessing its projected timber outputs before the final plan is published.

Current timber harvesting in the County is insignificant relative to statewide activity. In all years shown on Table CO-8, Colusa County's timber harvest represents less than one-tenth of one percent of the state's total harvest.

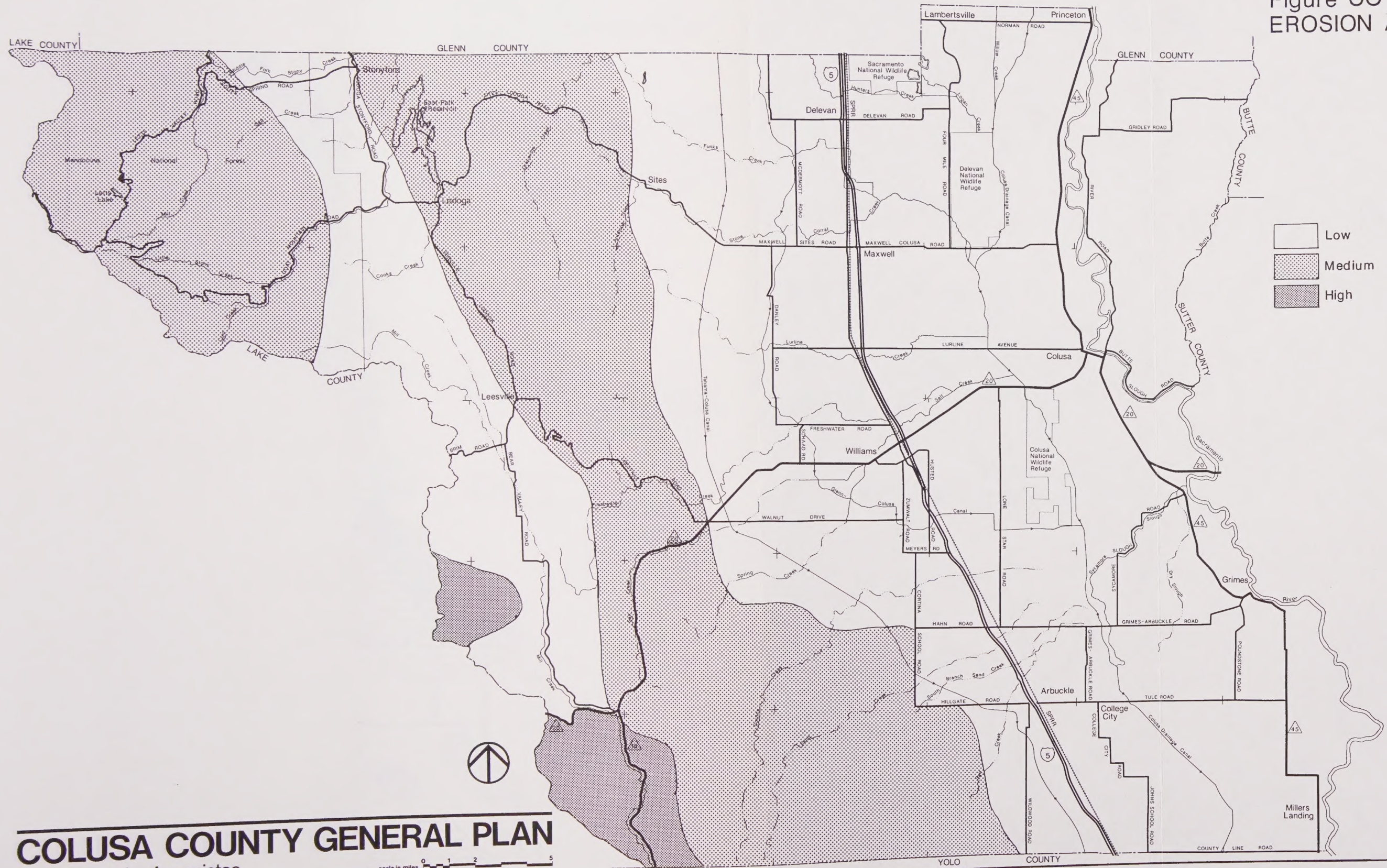
MINERAL RESOURCES¹

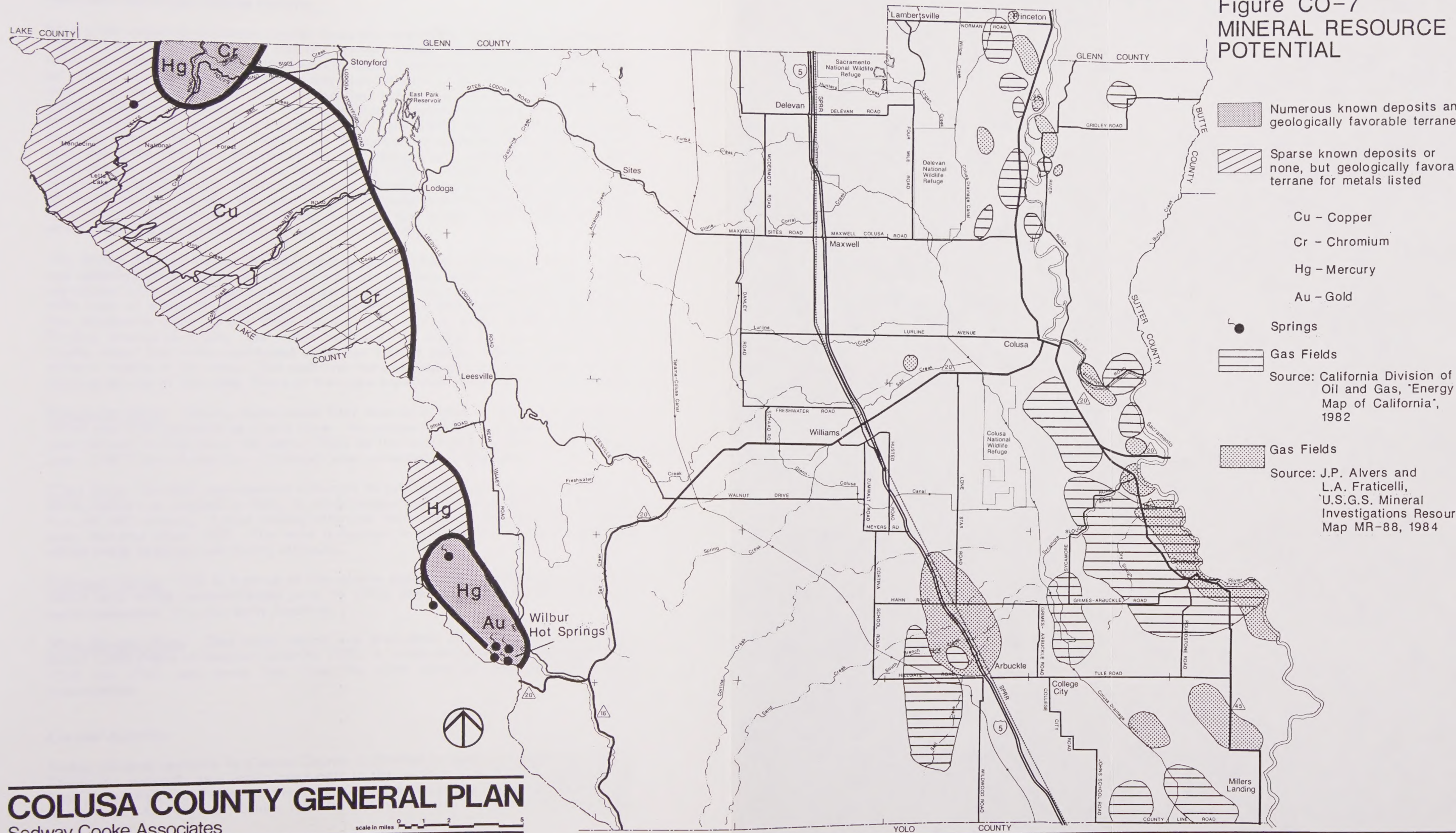
Introduction

The western portion of Colusa County has a long history of mineral activity. Moderate amounts of mercury have been produced since 1862, and gold has been produced in minor amounts since 1864. Regional geologic patterns and the history of known prospects in the area indicate a high probability for the discovery of additional gold and mercury deposits. Historical mineral resources throughout the county include sandstone, produced in the vicinity of Sites; mineral water, from the springs of the western area; and sand and gravel, located in the valley portion of the county. Salt, mineral paint, brick, chromite, copper, limestone, and sulphur have been produced in small quantities; and the occurrence of gypsum, pyrite and manganese have been recorded. Figure CO-7 illustrates locations of potential and recorded mineral resources.

¹Significant portions of this section are derived from the following sources: (1) Donald L. Gustafson, Manager-Special Projects, Homestake Mining Company, Sparks, Nevada, Mineral Favorability Assessment of Portions of Colusa County, California, 1987, May 1987; State of California Department of Natural Resources Division of Mines and Mining, Chapter of Report XXV of the State Mineralogist, July 1929; William B. Clark, Geologist, California Division of Mines & Geology, Gold Districts of California, CDMG Bulletin 193, 1970; United States Department of Interior, Bureau of Mines, Mercury Potential of the United States, 1965.

Figure CO-6
EROSION ACTIVITY





Historical and Recent Mining Activity

Mining has occurred in Colusa County since the mid-1800s. Copper was discovered in 1863 in Little Stony Creek but was not actively mined. Quartz containing gold and silver was discovered at Snow Mountain in 1864. Sulphur was discovered in 1867 and petroleum was found in the Antelope and Bear Valleys in 1865. Limestone was mined near Leesville beginning in 1878. The earliest extraction activity is associated with mercury, which was produced in the 1870s, then again intermittently around the turn of the century. Although gold was discovered in the 1860s, the main period of mining occurred during the 1880s. Significant production of sandstone and mineral water occurred in the first few decades of the 20th century, and sand and gravel have been produced in irregular quantities since about 1910. Minor production of other resources, including salt, mineral paint and chromite, occurred in the early decades of this century. As was the case in other mineral districts throughout the state, maximum production occurred during times of high prices. Most mining activity, other than sand and gravel extraction, ceased by 1943.

The Wilbur Springs Mining District encompasses portions of western Colusa County and eastern Lake County. Abandoned gold and mercury mines within Colusa County associated with the Wilbur Springs District include the Manzanita, located about a mile west of Wilbur Springs (gold and mercury); West End (gold); Cherry Hill, near the Manzanita mine (gold); Wide Awake, just west of Wilbur Springs (mercury); Empire (mercury); Elgin, four miles northwest of Wilbur Springs (mercury); and Clyde, about five miles northwest of Wilbur Springs (gold). There are also several mineral claims in the area. The gold and mercury deposits are associated with the mineral springs of the area. Some of the more significant mines are described below.

Manzanita Mine. Mining claims were first located in 1863 at the Manzanita Mine, which was first operated as a gold mine. An unknown amount of gold was produced. Intermittent mining from the early 1900s to the late 1960s or early 1970s yielded over 2,000 flasks of mercury. Cinnabar was recovered as a byproduct.

Elgin Mine. Several unsuccessful attempts to produce sulfur occurred at the Elgin Mine, which was located in 1875. A minor production of mercury occurred around the turn of the century. Later mining attempts were unsuccessful, and the mine has been inactive since 1929. The mine is located in an area of hot springs activity, which made underground mining difficult.

Rathburn Group. This is a group of five claims about 4 miles north of Wilbur Springs which was mined intermittently prior to 1892, when about 100 flasks of mercury were recovered. It is currently inactive.

Wide Awake Mine. This mine, which was discovered during the 1870s, produced about 1,800 flasks of mercury prior to 1900. A moderate production was reported in 1932 and 1943, and since that time the mine workings have become largely inaccessible.

Current Activity

Today, mineral activity in Colusa County is limited to sand and gravel extraction. There are currently two active producers in the county: Glen English operates the Sand Creek Pit, and Princeton Sand and Gravel operates the Princeton Ranch Pit.¹ In the past, the City of Colusa has also extracted sand and gravel. Several other

operations are either inactive or have not reported their operations to the California Division of Mines and Geology.

The sand and gravel activity in Colusa County is not regionally significant. As shown in Table CO-9, production is inconsistent. Maximum production was 658,000 tons in 1967. More recently, 1984 production totaled 20,250 tons, for a total value of \$51,000. Sacramento County, by contrast, produced three million tons in 1986. Several recent proposals for new sand and gravel operations indicate increased interest in Colusa County.

Sand and gravel is primarily used locally. It is relatively inexpensive to extract (approximately \$4 per ton), but very costly to transport (about 10 cents per ton per mile). Transportation costs can double the product cost in a trip of just 40 miles. In general, half of all sand and gravel resources are used for asphalt, providing surface material for playgrounds and roads. About 40 percent is used for Portland cement--for example, slab floors, freeways, dams, and tiltup buildings. The remaining 10 percent is used for subbase and specialty uses. According to the Division of Mines and Geology, demand runs at about 8 tons per person per year. This suggests that total demand in the county is approximately 100,000 tons per year. Colusa County imports some of its sand and gravel, namely from Sacramento, Butte, Sutter, and Yolo Counties.

Resource Potential

The Wilbur Springs Mining District is located at the boundary between the Great Valley geological province and the Coast Range Province. Another mining district located at this geological boundary is the Knoxville District, which is known to contain gold in commercial quantities; the McLaughlin Gold Mine is currently in production in this district, just south of Colusa County. Most of the mercury mines and prospects of the northern Coast Range occur in the vicinity of the Stony Creek Fault between the Wilbur Springs and Knoxville Districts. Exploration of this area is presently occurring, and increases in gold and/or mercury prices could increase exploration activity and lead to discoveries in the area tie to Colusa County.

Homestake Mining Company, which operates the McLaughlin Gold Mine in Lake County, is a major landholder in southwest Colusa County. Homestake is currently evaluating the resource potential of the area, which is geologically similar to the area of the McLaughlin Mine. Homestake's work has consisted of detailed mapping, core sampling, metallurgical testwork and environmental studies. Approximately 75 percent of the drill holes in Colusa County have indicated gold mineralization. Overall results of Homestake's exploration to date suggest that the area is favorable for discovery of gold deposits. These could become economically feasible to extract in the near future.

¹Dave Beeby, Project Manager, Sand and Gravel Resources, California Division of Mines and Geology, April 23, 1987.

Table CO-9: Sand and Gravel Production, 1960-1984

Production	
Year	Tons
1960	262,000
1961	321,000
1962	418,000
1965	294,000
1966	410,000
1967	658,000
1968	251,000
1969	274,000
1970	298,000
1982	41,000
1984	20,000

Note: Figures are not available for some years because the information is proprietary. In some years there are only one or two operators, or one private operator and the City of Colusa. This list includes only active producers who reported their operations to California Division of Mines and Geology.

Source: John L. Burnett, Mines and Mineral Producers Active in California, California Division of Mines and Geology Open-Files Report 87-1 SAC, 1987.

Regulations

Requirements of the Surface Mining and Reclamation Act of 1975 (or SMARA) state that cities and counties must adopt an ordinance(s) "...which establishes procedures for the review and approval of reclamation plans and the issuance of a permit to conduct surface mining operations." (Public Resources Code Section 2774.) The intent of this legislation is to ensure the prevention or mitigation of the adverse environmental impacts of mining and the reclamation of mined lands, and to ensure that the production and conservation of mineral resources is consistent with recreation, watershed, wildlife, and public safety objectives (Public Resources Code 2712).

The Colusa County Zoning Ordinance complies with the requirements of the Act by permitting "surface mining in all zones other than residential subject to the approval of a use permit issued in conformity with provisions of the State Surface Mining and Reclamation Act of 1975 and the County surface mining ordinance."

Also according to the Act, in association with regulations of the State Board of Mines and Geology, the State Geologist must identify mineral areas of the state which are threatened by incompatible land uses that would preclude mining activities. These areas are to be classified as one of four Mineral Resource Zones (MRZ) or as a Scientific Zone. This classification system must be incorporated into the General Plan of cities and counties supporting mining operations, including dredging and quarrying, and is intended to ensure that mineral resources will be available when their development is necessary or economically feasible. Colusa County does not yet contain any areas which have been designated by the state geologist as a Mineral Resource Zone or Scientific Zone.

Environmental and Safety Implications of Mineral Extraction

Mining operations have the potential to cause significant environmental damage, including increased erosion, disturbance of wildlife habitat, and water quality degradation. In fact, some of the heavy metals found in the Sacramento River have been associated with mining operations in the early part of this century. In addition, most mining operations significantly alter the visual environment. Sand and gravel operations occurring along the Sacramento River or in the valley can be seen from great distances. Most other mineral resources are found in the highly scenic coast range, on the slopes which border Bear and Indian Valleys.

Hazards associated with mineral extraction vary according to the methods of extraction. Many operations, such as gold extraction, are complex and employ highly toxic substances. Development of mercury mines is not likely as long as prices remain low. Some of the hazards associated with geothermal resources include high mercury content of the water and sulfur fumes.

GEOTHERMAL RESOURCES

Several thermal springs and wells are located within Colusa County. Most of these are in the immediate vicinity of Wilbur Springs, as shown in Figure CO-7. The resources are not known to be hot enough for energy development. A minimum temperature of 100 degrees Celsius would be required, and the water in Colusa

County is less than 70 degrees Celsius, as shown on Table CO-10. Most of the springs are warm enough for residential space heating or for resort development similar to the Wilbur Hot Springs Sanctuary.

It is possible that the thermal water is actually warmer but is cooled by comingling with colder water. This has not yet been determined but may be studied further in the future.

NATURAL GAS

Natural gas fields are found throughout the eastern portion of the county, as shown in Figure CO-7. Gas drilling has played an increasingly important role in the County's economy, contributing nearly one million dollars to the 1985-1986 tax rolls (about 15 percent of the total tax collected). This figure was down slightly from the peak 1984-1985 production. Overall production in 1985 was valued at \$143 million. The Grimes Gas Field, which is located partially within Colusa County and partially within Butte County, is one of the largest and most productive fields in the state. The County plays an important role in natural gas production, ranking third in the state in volume, behind Kern and Solano Counties. Gas production for the past several years is listed in Table CO-11.

Saline water trapped in sedimentary rock is usually drawn up with the gas. The water is usually disposed by injecting it back into the ground, usually into abandoned gas wells. Adverse impacts associated with natural gas extraction are primarily visual. The possibility of well blowouts, subsidence and groundwater contamination have been raised in the past and continue to be an issue in the County. These hazards are further discussed in the Safety Element.

HISTORIC AND CULTURAL RESOURCES

Colusa County has several noteworthy structures dating back to its settlement in the 1850s. Several homes and commercial buildings that were built in the late 1800s may not be on a historical register, but nonetheless contribute to the County's character. Listed on the National Register of Historic Places are the Colusa Grammar School, the Colusa High School and grounds, the Grand Island Shrine (1883) (located 8 miles south of Colusa), and the Nowi Rancheria (in the vicinity of Grimes). There are three additional properties which have been determined to be eligible for National Register: the Sacramento River Bridge, the Princeton Ferry site, and Upper and Lower Letts Valley.

Letts Valley in the Mendocino National Forest, which was settled in 1855 by Jack and David Lett, is a California Historical Landmark. Other California Landmarks in Colusa County are Swift's Stone Corral--built circa 1850, located 6 miles west of Maxwell; and the Colusa County Courthouse--an 1861 Federal/Classic Revival style building and the oldest courthouse in the Sacramento Valley still in use for its original purpose. Other Colusa County points of historical interest are the Independent Order of Odd Fellows Building in Colusa, and the Sacramento Valley Museum in Williams (1911). There are also numerous homes, commercial buildings, and churches of historical interest in the city of Colusa.

Table CO-10: Geothermal Resources

<u>Name of Spring or Well</u>	<u>Latitude North</u>	<u>Longitude West</u>	<u>Temp., °C</u>	<u>Flow, Litres/Minute</u>	<u>Total Dissolved Solids mg/Liter</u>
Red Eye Spring	39°21.06'	122°40.23'	26°	8	14,200
Elgin Mine (Spring)	39°03.42'	122°28.25'	69°	95	25,900
Wilbur Hot Springs	39°02.30'	122°25.25'	67°	100	25,000
Empire Silver Mine	39°02.26'	122°25.53'	38°	1	
Jones Hot Spring (Well)	39°02.03'	122°25.62'	61°	8	
Unnamed Springs	39°02.09'	122°25.59'	61°	15	
Blancks Hot Springs	39°01.87'	122°25.88'	49°	15	

Source: California Division of Mines and Geology, Geothermal Resources of California, California Geologic Data Map Series Map No. 4, 1980.

* * * * *

Table CO-11: Colusa County Natural Gas Production

<u>Year</u>	<u>Number of Wells</u>		<u>Gas Production Cubic Feet x 10⁶</u>	<u>Cumulative Gas Production Cubic Feet x 10¹²</u>	<u>Estimated Reserves, Cubic Feet x 10¹²</u>	<u>Statewide Rank²</u>
	<u>Producing</u>	<u>Shut-In</u>				
1980	86	39	7,116,380			12
1983	149	23	13,474,554			10
1984	149	29	17,760,164			8
1985	185	22	27,601,442	212,299 ³	22,342 ³	3
Oct. 1986	177	42	2,659,294			3

Water Production and Disposal

<u>Year</u>	<u>Number of Wells</u>		<u>Water Production Barrels⁵</u>	<u>Water Disposal Barrels</u>
	<u>Injecting</u>	<u>Shut-In</u>		
1980	2			7,857
1983	1	1	68,597	9,884
1984	2	1	290,387	185,175
1985	2	1	290,387	185,175
Oct. 1986	2	1	21,654	28,096

¹Inactive but not abandoned.

²For nonassociated on-shore gas production only.

³Does not include data for three fields which cross county boundaries.

⁴Data for one month only.

⁵Approximately 40 gallons per barrel.

Archaeological Sites

Prior to its settlement in the 1850s, Colusa County was home to several Native American groups. As many as 15,000 Indians lived in this part of valley at the time of John Bidwell's expedition in 1843. One of the largest towns in the valley was Coru, capital of the now extinct Colus Indian Nation and site of the present-day city of Colusa. The Colus, who numbered about 1,000 in 1850, subsisted on the lush native vegetation and fish, and resided in rancherias of 100-400 people. Residents of each rancheria spoke a different dialect. When Colusa County was settled by Anglos, the Indians and their culture were obliterated by alcoholism and epidemics.

Two main Indian groups lived in the vicinity of Stonyford-Lodoga: the Pomo and the Wintun. Several Pomo settlements existed near Stonyford, surrounded by the larger, more dominant Wintun settlements on three sides. The Stonyford area is rich in archaeological resources, particularly Indian burial grounds and food storage holes.

Because of the extent of Native American settlement, an archaeological study should accompany development proposals in areas known to have been inhabited by Indians. Information on the general location of these areas can be obtained from the Native American Heritage Commission, the State Lands Division, Parks and Recreation, and the Archaeological Department at Chico State. The precise location of archaeological sites is not published here due to the risk of vandalism of these sites.

CONSERVATION POLICIES

RESOURCE MANAGEMENT POLICIES

General

- CO-1 The conservation of the county's natural resources shall be promoted and projects which would waste resources or unnecessarily degrade them shall be discouraged.

Agricultural Policies

- CO-2 Agricultural land should be preserved and protected. This should not be construed to inhibit the restoration of cultivated land to natural habitat by landowners wishing to take such action.
- CO-3 Agricultural lands in Colusa County should be classified according to three general categories based on the following criteria (see Land Use Element):
- (a) Lands capable of supporting grazing based on resource characteristics, namely soils, climate, and access to water (A-U: Agriculture-Upland)
 - (b) Lands capable of supporting crop production (A-G: Agriculture-General):

- Existing croplands used for this purpose
- Lands which are not now but could be used for this purpose based on resource characteristics (soils, climate, access to water)
- Prime Soils

(c) Agricultural lands within a community's sphere of influence or ultimate growth area (A-T: Agriculture-Transition or U-T: Upland-Transition)

Mineral Resource Policies

- CO-4 The Resource Conservation land use classification shall apply to large-and small-scale mineral extraction operations. Among the uses permitted in these areas are mineral extraction, processing, and accessory uses.
- CO-5 Mineral extraction, processing, and accessory uses should be conditionally permitted in other areas of the county inherently compatible with mining, provided that mineral extraction activities will not have significant adverse effects on key view areas or wildlife habitat, unless such impacts can be sufficiently mitigated. Extraction of gravel and other minerals along rivers should be permitted, subject to the provisions of CEQA and other applicable laws.
- CO-6 Development within and adjacent to Resource Conservation lands shall be regulated so that proposed future land uses will not be incompatible with mineral extraction operations, where existing or future mineral extraction operations are likely. Regulations shall be responsive to the type/intensity of the mining operation and the nature of the adjacent land use. Regulations may include but are not limited to: (1) development siting (setback requirements, clustering); (2) land use buffer requirements; (3) hours of operation for mining activities; and (4) dust and noise controls on mining activities and operation.
- CO-7 A Mineral Resource land use classification shall apply to areas designated by the State Geologist as Mineral Resource Zones or Scientific Zones, pursuant to the State Mining and Reclamation Act of 1975, if and when such areas are designated in the future.
- CO-8 The county should support exploration and utilization of its geothermal resources.

Timber Policies

- CO-9 The County shall support the Mendocino Forest Plan for timber resource use.
- CO-10 The County shall promote the use of forest improvement practices and programs, including but not limited to: (1) California Forest Improvement Program; (2) Agricultural Conservation Program; (3) Forestry Incentives Program; (4) Agriculture Stabilization and Conservation Service; and (5) Chaparral Management Program.

Air Quality Policies

- CO-11 Future air quality shall be maintained by continuing to encourage a compact development pattern and by encouraging alternative modes of transportation (transit, bicycle, pedestrian).
- CO-12 A Colusa County Non-Attainment Plan shall be developed and implemented if and when Colusa County no longer meets state and national air quality standards.

Water Resource Policies

- CO-13 Waste disposal sites and other sources of hazardous or polluting materials should be discouraged in close proximity to streams, creeks, reservoirs, or the Sacramento River groundwater basins. All future sites shall comply with the RWQCB's requirement of filing a Solid Waste Assessment Test (SWAT report).
- CO-14 Sedimentation and erosion shall be minimized through control of grading, quarrying, logging, vegetation removal, placement of roads and bridges, use of off-road-vehicles, and agricultural practices.
- CO-15 An adequate water supply for the county's domestic, agricultural, and wildlife needs (especially migratory waterfowl) should be assured by working with state and federal agencies responsible for water projects.
- CO-16 Development of the Bureau of Reclamation's Sites Reservoir project should be discouraged. The search for an alternate water storage facility should be supported if such a facility is ultimately deemed necessary. Such facilities should be sited to avoid disruption of existing roads, homes, and historical sites.
- CO-17 Water-conserving agricultural practices and reuse of water should be promoted.
- CO-18 Native or non-water demanding landscaping should be encouraged in new subdivisions.
- CO-19 The county should coordinate with state and regional agencies, including the state Water Resource Control Board, Central Valley RWQCB, and Department of Water Resources, to establish a regular monitoring program of the county's water resources. Such a program should monitor: (1) ground water levels; (2) water quality, especially related to herbicides and pesticides; (3) erosion; (4) the effect of injection wells on ground water quality.

Wildlife and Habitat Policies

- CO-20 Protection of Resource Conservation Areas may at times conflict with agricultural and recreation management practices on adjoining lands. Such conflicts should be resolved on a case by case basis in a manner which recognizes the public interests in both habitat resource protection and the sound management of agricultural and recreational resources.

- CO-21 Land uses within Resource Conservation areas shall be regulated only to the degree necessary to achieve protection of the resource. Very low density single family residences, low intensity recreation uses, and agricultural uses may be permitted to the extent that critical habitats are not disrupted.

Cultural Resource Policies

- CO-22 The preservation and re-use of historical sites and structures in the county should be encouraged.
- CO-23 The county should apply for landmark status or national register listing for any historical sites which may be eligible.
- CO-24 The county shall encourage and cooperate with cities, special districts, state and federal agencies, and private landowners in acknowledging and preserving the county's cultural heritage, historical and archaeological structures, sites and landmarks.
- CO-25 An archaeological survey should be required prior to approval of any project which would require excavation in an area known to contain archaeological resources.

IMPLEMENTATION POLICIES

- CO-26 The California Environmental Quality Act (CEQA) shall be strictly enforced.
- CO-27 As funding permits, a feasibility study to determine the economic impact of extending the Williamson Act across the valley floor should be conducted.
- CO-28 If analysis of the economic impact of extending the Williamson Act countywide indicates that such extension would benefit the general welfare of the county at a whole, then all lands classified as agricultural lands should be eligible to enter into a contract, as provided by the Williamson Act.
- CO-29 The policy of granting hardship variances to requested splits in rural agricultural zones should be reassessed. Hardship variances should only be granted under unusual circumstances.
- CO-30 Existing agricultural lands and other County lands shall be reviewed at five-year intervals to determine the appropriateness of either their current or potential classification as agricultural lands. The purpose of this review is to reinforce agricultural uses by considering changes in farming practices or technologies, the availability of irrigation water, and the demand for land for urban development.
- CO-31 Non-agricultural lands located adjacent to lands designated by the General Plan as grazing lands and croplands may be subject to overlay zoning

regulations. These regulations should be designed to mitigate or eliminate conflicts between agricultural uses and non-agricultural uses by using natural and man-made features to establish buffers, by regulating the siting of non-agricultural structures, and by requiring disclosure to persons purchasing parcels or desiring to construct structures within agricultural buffer zones of their location adjacent to agricultural lands.

- CO-32 A reclamation plan describing methods to control mining waste, erosion, rehabilitation of streambed channels/streambanks, and reuse shall accompany all applications for mining or mineral extraction permits.
- CO-33 The Colusa County Air Quality Pollution Control District shall continue to regulate and issue permits for point sources of pollutants.
- CO-34 The county should support the development of a multi-county organization, including, but not limited to, Glenn, Colusa and Tehama Counties, for the management of the Sacramento Valley Groundwater Basin.
- CO-35 Colusa County should adopt guidelines for new development governing the preparation of erosion and sediment control plans.



Open Space Element

OPEN SPACE ELEMENT

"Anything more gorgeously beautiful than the display in meadows and wild pasturelands on hillside and riverside, it were impossible for anyone but a mad florist to imagine. Along the railroads on either hand runs continuously the rich and radiant bloom."

Grace Greenwood, 1880
History of Colusa County

ORGANIZATION OF THIS ELEMENT

The Open Space Element of the General Plan is necessary to ensure that land in Colusa County will remain available for the production of food, the management of natural resources, the enjoyment of scenic beauty, and recreation. Open space is not a land use, but a characteristic of certain types of land uses. Its value is attributed to the fact that it is predominantly undeveloped or developed with uses that complement the inherent natural, scenic, resource, or hazardous characteristics of the land.

One of the contributors to the high quality of life enjoyed by Colusa residents is the vast amount of open land in the county. This essential ingredient of rural living makes open space a valuable resource. From the agricultural lands of the valley floor, there are uninterrupted vistas of the Coast Range to the west and the Sutter Buttes and Sierra Nevada to the east. The visual and aesthetic qualities which are unique to Colusa County must be protected from scattered and haphazard development. To preserve and protect open space land, a development pattern that concentrates growth in existing communities is highly recommended. The Open Space Element provides the basis for the county to regulate and restrict the use of undeveloped lands.

The county's economy relies heavily on agriculture and agriculturally-related businesses. In order to maintain this way of life, agricultural land must be preserved and urban uses of land must be prevented from encroaching onto agricultural land. Similarly, open space land for mineral resource extraction or conservation must be preserved. Other open space lands in the county of significant value are the hunting and fishing grounds. These places draw the regional population as well as tourists and are important to the local economy. As the county's population grows, provisions for open space in the form of both active and passive recreational areas need to be made. Park and recreational facilities at all levels--neighborhood, community, and county--should be considered.

There are five general subjects addressed in the Open Space Element: natural resource preservation, resource production and management, public health and safety, community character, and outdoor recreation. The Conservation Element covers in greater detail the natural resource preservation and resource production and management subjects. Likewise, public health and safety is more thoroughly addressed in the Safety Element. The focus of the Open Space Element is on the subject of outdoor recreation as it pertains to serving small communities, the larger county population, and an even larger regional population.

THE ROLE OF OPEN SPACE IN COLUSA COUNTY

NATURAL RESOURCE PRESERVATION

Research Natural Areas

A research natural area (RNA) is an area set aside to preserve representative examples of specific botanic, aquatic, and geological features, primarily for scientific and educational purposes. The Frenzel Creek RNA is located in the Colusa County portion of the Mendocino National Forest, about six miles south of Stonyford. The area is approximately 935 acres and contains three botanical elements: Sargent Cypress, MacNab Cypress, and Serpentine Chaparral. It also has several plant species listed as sensitive by the U.S. Forest Service.

Wildlife Refuges

There are three wildlife refuges in Colusa County operated by the U.S. Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, comprising approximately 12,000 acres. Two are located entirely in Colusa County: the Colusa National Wildlife Refuge, located south of Highway 20 between Williams and Colusa, and the Delevan National Wildlife Refuge, located east of Interstate 5 near Maxwell. The southern tip of the Sacramento Wildlife Refuge is located in Colusa County, east of Interstate 5. The remainder of the Sacramento Refuge is in Glenn County.

The wildlife refuges were established in part to provide a feeding and resting place to the millions of birds that travel south for the winter from Alaska and western Canada; the path traveled by these birds is known as the Pacific Flyway. Much of the acreage on the refuges is used for growing agricultural crops, especially rice. Fields in the refuges are flooded and left unharvested so that birds may eat and nest. By providing food for the ducks and geese, the refuges also aid local farmers by keeping waterfowl from feeding on neighboring farm crops.

Riparian Communities

The term "riparian" describes the land adjacent to the bank of a river or other fresh water course. These areas are composed of soils with a significantly high moisture content and typically support plant species with very shallow root systems or plants which are capable of surviving with their roots completely submerged in water. A concentration of riparian vegetation is called a riparian community, a term that describes the relationship among plants within a geographically definable area (a riparian zone). These zones occur as corridors extending about 50 feet on either side of the river or streambank.

By nature of their diversity, riparian communities play a key role in maintaining environmental stability. Riparian communities protect water quality through natural filtration processes, facilitate ground water recharge, protect riverbanks from erosion, and provide habitat for numerous plant and animal species. In Colusa County, the largest riparian communities are located along the Sacramento River. In addition, a riparian area along Salt Creek contains the only known native grasslands in the Sacramento Valley.

The cumulative impacts of intensive human activities along riparian corridors can be detrimental to their survival and should be restricted. The main problem has been the rapid conversion of high terrace vegetation lands to orchards and other croplands, according to a Department of Water Resources Riparian Zone Study in 1975. The purchase of riparian zoned land by public agencies to increase public access to the river may also have the negative side effect of greatly reducing wildlife populations as people trample plants and scare wildlife away. Land uses which do not threaten riparian community integrity, such as grazing and low intensity recreation, are more acceptable uses within riparian corridors.

Mendocino National Forest

The Mendocino National Forest occupies 884,000 acres of the northern Coast Range and includes parts of six California counties. Less than one-tenth of the forest, or 72,000 acres, is in Colusa County. For planning purposes, the U.S. Forest Service has divided the forest into 37 geographic units, called management areas. Six of these areas lie partially or entirely in Colusa County. Within each of these management areas, the Forest Service has proposed various "management prescriptions" which state the mix of integrated management practices and activities to be applied to specific land areas.

Table OS-1 lists the management prescriptions and number of acres affected within the Colusa County portion of the Mendocino National Forest.

The National Forest lands are divided into "management areas," three of which -- Sullivan, Frenzel Creek Research Natural Area, and Letts Lake -- are entirely contained within Colusa County. Cedar/Sanborn is primarily within Colusa County and the Snow Mountain Wilderness is partially within the County.

For each management area several "management prescriptions" are assigned. A large proportion of the National Forest land within Colusa County is designated for chaparral management and minimal management. Chaparral management provides for forage production, watershed management and fire management. Minimal management policies are primarily applied to non-productive, non-economical or unstable land, as well as land with scenic, ecologic, geologic or cultural resource values.

Another significant land management prescription is for wildlife. The emphasis is on maintaining or increasing habitat capability for specific wildlife species that the Forest Service calls "management indicators." These indicators gauge the viability of all other indigenous species in the forest. The wildlife management emphasis applies to 9,569 acres of presently existing annual and perennial grasslands, hardwood

¹For a detailed review of management prescriptions, see the Proposed Land and Resource Management Plan for the Mendocino National Forest, by the U.S. Forest Service, Chapter 4.

Table OS-1: Management Prescriptions for Mendocino Forest Lands

<u>Management Prescription</u>	<u>Acreage</u>	<u>% of Total</u>
Wildlife	9,569	13.3
Chapparal	13,043	18.2
Range	1,490	2.1
Minimal	19,344	26.9
Recreation	809	1.1
Spotted Owl Habitat	1,604	2.2
Timber-Modified	7,543	10.4
Timber-Intensive	7,243	10.0
Research Natural Area	4,539	6.3
Wilderness	<u>6,660</u>	<u>9.3</u>
Total	71,844	100%

Note: Approximately 156 acres of a management area which is primarily located in Glenn County is not included; therefore, total acreage does not match up to total forest land in Colusa County.

Savannah, hardwoods, and riparian areas in Colusa County. The key wildlife include Spotted Owl, Deer, Bald Eagle, Goshawk, Peregrine Falcon, Quail, and Raptors.

A portion of the National Forest land is designated for intensive timber harvest, managed for optimum timber yields (discussed further in the next section). Another portion is designated for modified wildlife purposes, visual quality objectives, or streamside management.

Snow Mountain Wilderness Area

Snow Mountain was designated a wilderness area in 1984 in accordance with the Wilderness Act of 1964. The Colusa County portion of the area consists of approximately 6,660 acres with elevations ranging from 1,800 feet in the gorge of the Middle Fork of Stony Creek to 7,056 feet on the summit of Snow Mountain East. According to the Mendocino National Forest Land and Resource Management Plan, management activities and permitted uses will be regulated to ensure that there are no unnecessary impacts on the wilderness characteristics of the area, and to develop specific management plans.

Bureau of Land Management

There are about 21,700 acres of public land in the County administered by the Bureau of Land Management (BLM). These areas primarily lie along the Cortina Ridge and Walker Ridge in the western part of the County, and in High Valley in the northwestern part of the County. Much of the BLM land is designated for "protective withdrawals" which means that it is managed to protect wildlife species and habitat. Figure OS-1 shows publicly owned or administered land within Colusa County.

MANAGED PRODUCTION OF RESOURCES

Introduction

Forest, range, and agricultural land uses comprise three-quarters of the County's total acreage and characterize the bulk of Colusa County's open space. These areas contain finite natural resources which may be depleted over time. Thus, these land resources need to be properly managed. It is the purpose of this section to recognize that open space is a limited and valuable resource which must be conserved wherever possible. More detail on these resources is contained in the Conservation Element.

The management prescription for **timber-modified land**, as defined by the Forest Service for the Mendocino National Forest, provides a dual emphasis on timber harvesting and other resource objectives including wildlife, viewshed, and watershed protection. Such timberlands have been assigned to "reduced yield" and "marginal yield" regulation classes. Reduced timber yields are expected within key deer habitat areas, within streamside management zones, on areas with slope stability concerns, and in areas with outstanding visual quality. The management prescription for **timber-intensive land** is to obtain optimum timber yields from productive forest land; this class applies to all timberlands not constrained by other resource objectives. The **range land** prescription promotes intensified range management to increase forage production and utilization by domestic livestock.

The Forest Service uses a bidding process to permit the public to use forest lands for range, timber, and mining purposes. The Forest Service is obligated to pay the county 25 percent of the fees collected. In fiscal year 1986, Colusa County received \$183,156 in payments from the Mendocino National Forest receipts.

Bureau of Reclamation

Until recently, The Bureau of Reclamation administered approximately 6,660 acres of land around the East Park Reservoir and the Funks Creek Reservoir. Jurisdiction over the reservoir has recently been passed to the U.S. Forest Service. There is public access to East Park Reservoir from Lodoga and Stonyford for camping, fishing, and boating recreation. Recreation management is important in the watershed in order to preserve the water quality.

Agriculture

Farming in the Sacramento Valley and smaller upland valleys, and cattle or sheep herding in the foothills comprise the largest land uses and managed open spaces in the County. There are approximately 235,000 acres of active farmland and 200,000 acres of range land, totaling about 60 percent of the County's land area. The California Land Conservation Act (also known as the Williamson Act) allows the county to establish agricultural preserves and offer contracts to landowners for the purpose of protecting agricultural land from premature conversion to other uses. Landowners agree to keep land in agriculture or open space, and in return the county assesses the property at its agricultural rather than market value. The effect is to lessen the pressure for development on agricultural lands.

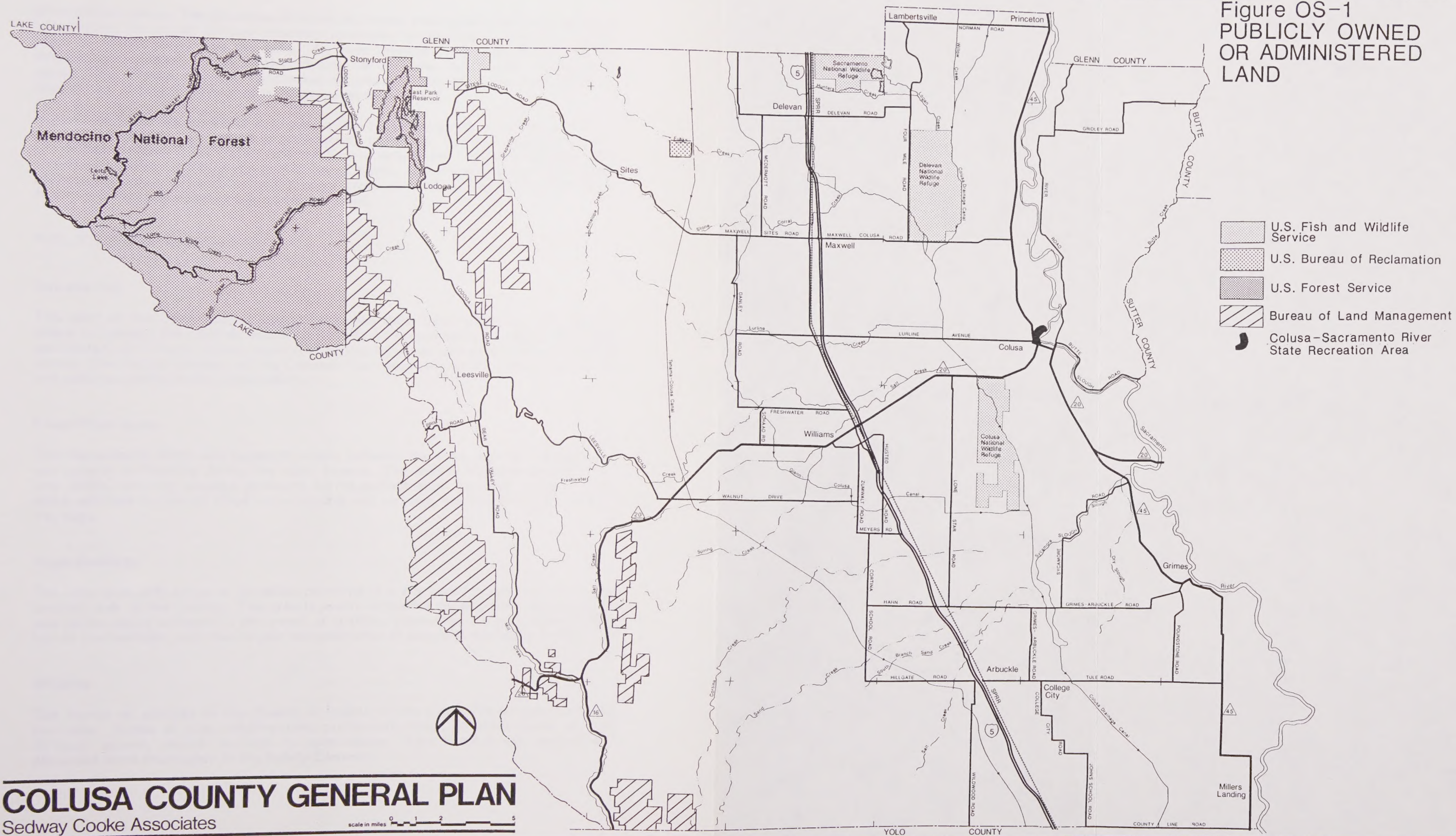
Colusa County is unique in the state in that most of its arable land is excluded from the Act. About 95 percent of the land which is under contract under the Williamson Act is grazing and ranchland in the foothills. The Williamson Act has been useful in preventing subdivision of these areas for rural residential development. The remaining 5 percent of contracted lands are concentrated in the western part of the valley. Although the valley floor is not imminently threatened by urban development there has been some interest expressed in extending the Act to include some of the county's prime farmland.

Proposition 13 has reduced the financial advantages associated with Williamson Act contracts, particularly on lands experiencing urbanization pressure. A broader application to lands on the valley floor would become more attractive to landowners if the taxation limits of Proposition 13 were to change in the future. An extension of lands covered might lower the tax burden on some of the county's farmers but could have a detrimental effect on county revenues. The fiscal impact of extending Williamson Act lands must be ascertained before such action is taken.

Groundwater Recharge

An underground geologic formation--strata of earth, gravel, or porous stone, containing water--is called an aquifer. A region of aquifers is known as a

 U.S. Fish and Wildlife Service
 U.S. Bureau of Reclamation
 U.S. Forest Service
 Bureau of Land Management
 Colusa-Sacramento River State Recreation Area



Sedway Cooke Associates

scale in miles 0 1 2

groundwater basin. The groundwater basin and water bearing soils are replenished by percolation, a natural process whereby rainwater is returned to the groundwater basin by filtration through the soils. As more areas are urbanized and covered by impervious surfaces, more water drains to streams and gullies rather than percolating through the soil. Extensive urbanization can limit the recharge of an aquifer and also affect the quality of the subsurface water.

Natural features are essential to ground water recharge, particularly floodplains and streams which pass over gravel or other porous materials. The flat agricultural lands of the Sacramento River Valley and the Sacramento River floodplains are the most significant areas for this process in Colusa County. It is important that these types of features are preserved in their present state as much as possible so that water transfer to the groundwater basin is maintained.

PUBLIC HEALTH AND SAFETY

Introduction

This part of the Open Space Element addresses those lands which are held as open space to protect the public's health and safety. These areas are subject to hazards associated with flood plains, slope instability, wildfire, and groundwater recharge areas. The Safety Element of the General Plan reviews more extensively the issues and policies dealing with public safety.

Flood Plain Zones

The Sacramento River and adjacent creeks between the river and the Colusa Canal are subject to flooding during the rainy season. The soils in this area are silty clay and adobe, creating seepage problems during periods when the river is high. For a more detailed review of flood plain hazards and policies, see the Safety Element of the plan.

Slope Stability

The only area with a risk of landslide potential is in the Coast Range foothills on the western side of the County. The area is poorly suited for development, and roadways and homes could collapse in the event of a slide. Presently, the population is very low in the foothills, with the largest concentration of people in the Indian Valley.

Wildfire

The threat of wildfire in the County is mainly in the Coast Range mountains and foothills. Areas of high wildfire risk, particularly those on steep slopes or with difficult access, should be kept in open space. Fire hazards are mapped and discussed more thoroughly in the Safety Element.

COMMUNITY CHARACTER

One important aspect of open space which is frequently ignored is its role in the definition of community character. This role cannot be ignored in Colusa County: when citizens were asked what qualities made Colusa County special, two-thirds replied "open space." The combination of small towns, open fields, and hillsides untouched by development are the essence of the county's rural quality. The county's lifestyle depends heavily upon the maintenance of open space.

This role of open space really occurs on two levels: on a county-wide level, maintaining open space becomes important to preserve particular views, such as the Sutter Buttes or Snow Mountain, and to maintain the integrity of the landscape. The undulating foothills of the Coast Range, the riparian corridors of the Sacramento River, the agricultural uses along the freeway, and the expansive upland valleys combine to create a landscape that is uniquely Colusa County. On a smaller scale, open space in the county helps to delineate the differences between communities, as well as each community's absolute boundaries. Designated open space areas around a community can encourage infill development and reduce urban sprawl.

By recognizing the important role that open space plays in Colusa County and developing policies to preserve its key aspects, future development can be encouraged to "fit" the existing landscape without disturbing unique features. For instance, industrial development should not occur in ribbons along the freeway between towns. Likewise, views of the foothills should not be cluttered by five to ten-acre ranchettes.

OPEN SPACE FOR OUTDOOR RECREATION

Introduction

This section of the Open Space Element identifies park and recreational areas in the county. Parks and natural areas are of important cultural, educational, aesthetic, ecological, and social value. They are the foundation of the county's recreation system. As the population grows, park and recreational facilities need to be planned, acquired, and developed.

Regional Recreational Areas

The largest designated recreation area in Colusa County is the Mendocino National Forest, managed by the U.S. Forest Service. A variety of recreational opportunities exist within the forest: primitive and developed camping, picnic areas, organizational camps, second homes, hang-gliding, off-road vehicle trails, hiking and horseback riding trails, fishing, and hunting. It is the Forest Service's goal to manage these varied uses without conflict, and to ensure the preservation of the forest's natural resources.

Letts Lake in Upper Letts Valley is a popular recreation area which has eight campsites around the lake, a few summer homes, and numerous hiking trails. The lake is stocked with trout and bass, and boating is limited to rowboats, canoes, and rafts.

A well-known place for off-road vehicle (ORV) use in the forest is Davis Flat, located near Letts Lake. It is noted for endurance races; an "Enduro Weekend" may attract 2,000-3,000 people. On particularly big weekends, there may be 4,000-5,000 people, with up to 500 vehicles entered. The facilities at Davis Flat include a campground and special trails marked for various levels of driving skill. Organized ORV events are managed under special use permits that require bonding to guarantee cleanup and trail maintenance after the event. Events are scheduled so as not to conflict with hunting seasons or major holidays.

According to the Mendocino National Forest Resource Management Plan, ORV use has been the fastest growing recreation activity in the forest over the past 30 years. It began after World War II in conjunction with hunting and fishing. Motorcycles are the most popular ORV used today, while four-wheel drives are still primarily identified with hunting. By 1970, ORV use had developed into a sport, and conflicts between this use, other uses, and forest resources became pronounced. In the late 1970s, ORV "zoning" began by designating areas and trails available to ORV users. More trails are being planned for ORVs, including a corridor system similar to the Pacific Crest Trail.

The Colusa-Sacramento River State Recreation Area provides 60 acres of riverfront recreation near the City of Colusa. The park is located at the north end of town where the river makes a wide easterly bend. Its key features are boat ramps, picnic sites, nature walks, and camp sites with piped water. Because of the river's width at the park--between 200 and 400 feet for a one-half-mile stretch--there is plenty of room for a variety of water activities, including fishing, boating, and water skiing.

Wilbur Hot Springs Health Sanctuary is located in the southwest portion of Colusa County, an area which contained several hot-spring resorts at the turn of the century. Its naturally hot mineral water flows through four baths in temperatures varying from 98° to 120° Fahrenheit.

Sacramento River Access

Public access to the Sacramento River in Colusa County is quite limited. The Colusa-Sacramento River State Recreation Area is the only public boat launch and landing facility in the County. However, people do enter the river at several private sites. Most of the land adjacent to the river is privately owned agricultural land.

Boating is a popular activity on the Sacramento River. The season begins in April and lasts until the winter rains. A cleared navigational channel is maintained between the City of Colusa and Sacramento, so boats up to 40 feet in length can make the trip. There are several places along the river for camping and houseboat rental which are located outside of the County's jurisdiction. A river cruise from the mouth of the Sacramento River near Antioch to Colusa (145 miles) can be made in 10-12 hours. Traveling along the river, with its tree-lined banks, wild grapevines, and overhanging foliage, is a picturesque experience.

The river generally is not visible to motorists on Highway 45, which parallels the river, due to the levees. However, there are segments of Butte Slough and River Roads that are on top of the levees, offering panoramic views of the river. There is presently no organized trail system along the river.

Fishing

Fishing is good in the Sacramento River between Grimes and Princeton, particularly for salmon, steelhead trout, and striped bass. People fish from boats and along the banks of the river. The Mendocino National Forest in Colusa County offers 85 miles of trout streams, principally Big Stony and Little Stony Creeks and their tributaries. From time to time, the streams are stocked with trout by the California Department of Fish and Game, but "natives" can still be caught. A very popular fishing place is Letts Lake, a 35-acre lake stocked with trout and bass.

Hunting

More ducks and geese winter in the Sacramento Valley than in any other area of the Pacific Flyway. The wildlife refuges were established to sustain the birds in Colusa County through the fall and winter by providing an abundance of food and a place to rest. Ducks arrive in August, and geese arrive in large numbers around Thanksgiving. Public hunting is permitted on portions of the wildlife refuges during duck and pheasant seasons. To hunt on the refuges one must obtain a permit from one of the hunt check stations.

In addition to providing habitat for ducks and geese, the refuges attract swans, marsh and shore birds, upland birds and a number of small mammals. Nearly 200 different species of birds have been recorded, making the County a popular location for bird watching.

There also are a number of commercial hunting clubs and cooperatives operated by community organizations throughout the County. These "hunting camps" are operated on private agricultural land by special use permit. Lambertsville has a large congregation of mobile homes and trailers used by hunters on a seasonal basis.

In the western foothills of Colusa County in the Walker Ridge Public Hunting Area, hunting for quail and deer has become more popular as the habitat for these animals has been improved by the Bureau of Land Management.

Local Recreation Areas

Table OS-2 contains an inventory of local parks in the county listed by city or town. The table describes the location and features of each park area.

The City of Colusa offers the most complete set of local park facilities in the County, with areas for picnicking, walking, sitting under shade trees, baseball diamonds, tennis courts, and playgrounds for children. About 18 acres within the city limits have been developed as community or neighborhood parks. The city has about 4 acres of community or neighborhood park per 1,000 residents; this is comparable with national standards and with standards used by neighboring counties. The proximity of the Sacramento River State Park puts Colusa in a much better position than most other communities in the country in terms of park amenities.

The City of Williams has two city parks; the larger park contains the Sacramento Valley Museum and a large area for barbecues or picnics. With about 9 acres of parkland, Williams has about 5 acres of park per 1,000 residents, comparable with national standards and with the city of Colusa.

Table OS-2: Inventory of Local Parks

<u>City/Town</u>	<u>Name/Location</u>	<u>Description</u>
Colusa	Colusa Levee Scenic Park --10th & Levee Streets adjacent to Sacramento River State Recreation Area	2.19 acres; built upon river levee; grass, trees, paved walking/jogging/ biking trail; picnic tables
Colusa	Memorial Park --10th & Market Streets	2.35 acres; shady, tree- filled; children's play area with swings and slide; pic- nic tables; restroom
Colusa	A. B. Davison Park --10th Street between Webster & Parkhill	2.35 acres; grassy, tree- filled; paved walking paths go through it
Colusa	Municipal Swimming Pool --9th Street between Webster and Parkhill	between A. B. Davison Park and Will S. Green Park
Colusa	Will S. Green Park --8th Street between Webster and Parkhill	2.88 acres; Boy Scout cabin; barbecue facilities, picnic tables, horseshoe pit, child- ren's play area with swings, slide, jungle gym, and glider swings for tots
Colusa	Sankey/Elmwood Park --between Webster & Parkhill, 3rd & 4th Streets	2.35 acres; 2 lighted tennis courts and children's play area; lots of shade trees
Colusa	Jennifer Rew Memorial Play Area--corner of Webster & 5th Streets	0.58 acre; kindergarten playground with slide, swings, drinking fountain
Colusa	C. D. Semple Park	1.87 acres; picnic tables, play area, shade trees
Colusa	Little League Ball Park --5th Avenue	baseball fields
Colusa	Lewis Tennant Ballfield Complex--Colusa Avenue across from high school	3.21 acres; site of Colusa Softball Association games and tournaments
Colusa	King's Vale Park --3rd Street	Tot lot play area scaled to toddlers; sand surface

cont'd...

<u>City/Town</u>	<u>Name/Location</u>	<u>Description</u>
Williams	Reddinger Park --9th & "F" Streets	1/2 of a city block; tree-filled, with children's play area and horseshoe pit
Williams	Museum/Venice Park --Venice & "E" Streets	Sacramento Valley Museum of area's early history; picnic tables; barbecue facilities; tennis courts; combination rugby/soccer/baseball field; horseshoe pits; children's play area; public or private rental of facility for weddings, quinceaneras, antique shows, dinners, meetings, etc.
Williams	School District properties	playground areas; athletic track and field area; football and baseball fields; Little League baseball diamond; exterior basketball courts; exterior handball court; all accessible to public when school is not in session
Maxwell	School District property	swimming pool
Arbuckle	Hall Street	approximately 6 acres; baseball fields
Sites	Sites Park --Maxwell Sites Road	
Stonyford	Rodeo Grounds and East Park Reservoir	camping/recreational area
Lodoga	East Park Reservoir	camping/recreational area

Arbuckle has one 6-acre park with ballfields, providing about 4 acres per 1,000 residents. Princeton, and Grimes have no community park facilities. In the past, the school playfields have served these towns' recreational needs. Since these communities are small, their proximity to open space has not made the lack of parkspace a particularly serious problem.

The Maxwell Recreation and Parks District was formed to manage the town pool and provide for the recreation needs of the community. There is a strong sentiment in Maxwell that a full-service park is needed, possibly on surplus land held by the Southern Pacific Railroad. This sentiment is likely to grow stronger as the town develops.

The foothill and upland valley areas are surrounded by outdoor recreational areas. Their sparse population does not justify the development of large community or neighborhood parks at this time. A small park serves residents of Sites, while the Rodeo Grounds and East Park Reservoir serve Stonyford-Lodoga residents. The Stonyford Recreation District has plans to improve the camping area behind the rodeo grounds and has recently completed improvements to the town baseball field. The District is continuing to look for financial assistance to create improved recreational facilities for the Stonyford-Lodoga area.

Private Recreation Areas

There are two public 9-hole golf courses in Colusa County. One is the Arbuckle Golf Course located on Hillgate Road west of Arbuckle. The other is the Colusa Golf Course located on Highway 20 southeast of Colusa.

Publicly-owned open space land and privately-owned, undeveloped lands contribute significantly to Colusa County's open space resources. Because of its relatively low population and rural location, developed parks are not needed as much as they would be in an urban area.

Future Recreation Needs

Local Needs. The need for developed neighborhood and community parks will increase with the growth of Arbuckle, Colusa, Maxwell, and Williams. Recommended allowances for community, neighborhood, and miniparks are shown in Table OS-3. While residents of Grimes, Princeton, Stonyford, and College City are encouraged to establish parks in their communities, their projected population will probably not be great enough to justify major public investment in parks.

Using a standard of 5 acres per 1,000 residents, about 57 acres of new community or neighborhood parks will be needed by the year 2010. A community park should be developed in Maxwell and neighborhood parks should be developed in Arbuckle, Colusa, and Williams. The neighborhood parks should generally be located within growth areas.

The accepted means of acquiring neighborhood parkland is to pass the responsibility on to the development that generates the demand for the park. In many communities, a development over a certain threshold (such as 50 dwelling units) may be required to reserve land within the project for a neighborhood park. Since Colusa County developments are rarely that large, an in-lieu fee for parks can be

Table OS-3: Recommended Allowances for Parks

<u>Use</u>	<u>Service Area</u>	<u>Desirable Size</u>	<u>Ac/1,000 Population</u>	<u>Desirable Site Characteristics</u>	<u>Threshold Population Size</u>
<u>Mini-Park</u>					
Specialized facilities that serve a concentrated or limited population or specific group such as tots or senior citizens.	Less than 1/4-mile radius	5,000 sf to 1 ac	0.25 to 0.5 ac	Within neighborhoods	250
<u>Neighborhood Park/Playground</u>					
Area for intensive recreational activities such as field games, court games, crafts, playground apparatus area, skating, picnicking, wading pools, etc. May also include natural areas for picnicking, viewing, etc.	1/4- to 1/2-mile radius to serve a population up to 5,000 (a neighborhood)	2-5 ac	1.0 to 3.0 ac	Suited for intense development. Easily accessible to neighborhood population, geographically centered with safe walking and bike access. May be developed as a school-park facility. May include picnic sites and a vista point.	500-1,000
<u>Community Park</u>					
Area of diverse environmental quality. May include areas suited for intense recreational facilities, such as athletic complexes, large swimming pools. May be an area of natural quality for outdoor recreation, such as walking, viewing, sitting, picnicking. May be any combination of above, depending upon site suitability and community need.	Several neighborhoods, 1- to 2-mile radius	5-10 ac	2.0 to 5.0 ac	May include natural features, such as water bodies, and areas suited for intense development. Easily accessible to neighborhood served.	2,000-5,000

established based on the number of dwelling units to be built in a project. The fees are placed in a fund which is eventually used by the city, county, or service district for park acquisition and development.

In the absence of development, the community may choose to form a recreation service district and tax themselves for the cost of developing and operating parks. Donation of land and volunteer contributions of materials and labor can also be very effective in developing small neighborhood or community parks.

Regional Needs. The need for regional recreation facilities in the future should be focused on natural areas which can serve the multiple purpose of providing recreation, preserving natural resources and scenic beauty, and ensuring protection from flood hazards. Recreational trails will be especially important in the western foothills and mountains, as will provision of additional camping, swimming, and boat launching facilities.

At this time, acquisition of private land for county parks does not appear financially feasible. Donation of private land to the county or state for public use is encouraged. Due to the high cost of operating park facilities, such land should remain undeveloped and relatively maintenance-free. Colusa County does not appear ready to enter the "recreation business" at this time and the demand for income-generating parks in the county is very limited.

As an alternative, the county might consider establishing a countywide recreation district charged with the development and operation of county parks. Because such a measure would probably involve a property tax hike, and because there is no perceived shortage in regional recreational amenities, this alternative is probably not feasible at this time.

OPEN SPACE POLICIES

MANAGEMENT OF OPEN SPACE RESOURCES

General Policies

- OS-1 Land designated as Resource Conservation (R-C), Agriculture-General (A-G), and Agriculture-Upland (A-U) in the Land Use Element should be preserved in open space uses for the duration of the planning period unless development of these areas is consistent with applicable community plans or land use policies.
- OS-2 Land use policies should recognize the importance of open space in the County. Land use categories should be defined so that open space may be preserved through the planning period.
- OS-3 Publicly owned lands currently used for recreational purposes or as undeveloped open space should be retained in their present use, unless designated for an alternate use by the Land Use Element.

Natural Resource Preservation

- OS-4 The native perennial grasslands in Colusa County (located 6 miles west of Williams near Salt Creek; see Figure CO-3) should be preserved as open space.
- OS-5 The Mendocino National Forest Plan for Colusa County should be supported.
- OS-6 The National Wildlife Refuges in Colusa County should remain in their present use. Efforts to improve the conditions of the refuges for wildlife should be supported.

Managed Production of Resources

- OS-7 The conversion of agricultural land to urban use should occur only where the land adjoins an existing community. Where feasible, land that is poorly suited for agriculture due to soil or drainage conditions, urban encroachment, or small parcel size should be developed first.
- OS-8 The Sacramento Valley agricultural lands should be preserved to the maximum extent possible to ensure recharge of the Sacramento River ground water basin and water-bearing soils.

Public Health and Safety

- OS-9 Urban development should be prohibited in the designated floodway of the Sacramento River, Colusa Drainage Canal and the Sutter Bypass.
- OS-10 Development on highly unstable slopes or in areas with high wildfire risk and limited access should be prohibited in the absence of adequate mitigation measures.

Community Character

- OS-11 Urban growth should occur contiguous to existing communities within designated service areas. Infill of urban land should be encouraged.
- OS-12 The county should ensure that areas of permanent open space, as defined in Policy OS-1, are retained between the communities of Colusa County. Linear development patterns in which separate towns "grow together" should be discouraged.
- OS-13 Views of regional focal points, such as the Sutter Buttes, the Sacramento River, Snow Mountain, and St. John Mountain should be preserved wherever possible.
- OS-14 To the maximum extent possible, the significant open space resources in Colusa County, such as the foothills, Indian Valley, and Bear Valley, should remain visually undisturbed.

- OS-15 Where possible, new development within Community Plan Areas should be designed to capture view opportunities of the surrounding natural landmarks.
- OS-16 Expansion of rural residential development outside the designated Community Plan Areas should be discouraged.
- OS-17 All resource extraction activities should include mitigating measures which ensure that their effect on scenic views is minimized.

Outdoor Recreation

- OS-18 Colusa County should, through its land development regulations, ensure that adequate park space is provided to serve new development.
- OS-19 Sufficient land should be acquired and held in the public domain to satisfy the recreational needs of current and future residents. Advance, willing seller, acquisition is recommended to ensure the protection and availability of future park and open space land.
- OS-20 Park and recreation system planning, acquisition, development and operation should be coordinated among Colusa, Williams, the county, state and federal governments, school districts, and special districts, and should take advantage of opportunities for linkages between adjacent publicly owned parks, school facilities and open space lands.
- OS-21 Transportation improvements, such as road widening and bridge construction, should be designed to facilitate eventual provision of pedestrian and bicycling paths. Safe crossings should be provided through busy intersections.
- OS-22 Use of off-road vehicles on bicycling, hiking, or horseback riding trails should be prohibited.
- OS-23 A clear, coordinated system of signage should be developed for any new equestrian, hiking, or bicycling trail, with priority given to well-used or linked trail systems.
- OS-24 The county should discourage the conversion of existing privately operated outdoor recreational facilities, such as hunting camps and organizational camps, into year-round residential developments.
- OS-25 Private commercial recreation enterprises within existing communities should be encouraged.
- OS-26 Colusa County should support efforts of citizens and non-profit groups to establish trails or to improve parks within the Community Plan Areas.
- OS-27 Private landowners should continue to have the right to offer hunters access to their land during the official hunting seasons.
- OS-28 Before the horizon year of this plan (2010), the communities of Arbuckle, Colusa, Maxwell, and Williams should acquire and develop neighborhood

parks to meet current and future recreational demand. The scale of these parks and types of facilities provided should be based upon the size of the town, its financial resources, existing park facilities, and the desires of local residents.

- OS-29 Where feasible, future water development projects should include provisions for public access to the water and shoreline areas.

OPEN SPACE IMPLEMENTATION POLICIES

- OS-30 The county should consider establishing local recreation service districts, especially in Arbuckle, for the establishment and improvement of public park and open space lands.
- OS-31 The county should adopt development standards which require dedication of parkland or in-lieu fees for development. Thresholds for dedication and the amount of the fee should be determined after the adoption of this plan. The county should generally strive to maintain a standard of providing 5 acres of community or neighborhood parkland per 1,000 population. The incorporated cities should be encouraged to adopt similar guidelines.
- OS-32 Where non-residential development will generate significant demand for new park facilities (due to induced population growth), modified in-lieu fees or park dedication requirements should also be considered.
- OS-33 The zoning ordinance should be revised to reflect the identification of appropriate sites for community parks and open space.



Safety Element

SAFETY ELEMENT

"People generally ran from the stores and dwellings into the streets while a few fell to praying with great zeal."

Colusa Sun Herald, on the
1892 Earthquake
April 23, 1892

ORGANIZATION OF THE SAFETY ELEMENT

The Safety Element addresses aspects of Colusa County's natural and man-made environment which pose threats to human life or property. These conditions define basic constraints to land use to which the community development pattern must respond. The issues contained in the Safety Element are listed below:

- o Flood protection and dam inundation
- o Geologic and seismic hazards
- o Wildfire
- o Hazardous substances
- o Injection Wells
- o Noise

Many of the issues discussed in this Element are related to isolated incidents requiring quick, coordinated response. Thus, the Safety Element addresses, in a generalized manner, emergency response plans and needs. Water quality is both a safety issue, in terms of potential threats to public health, and a natural resource issue, in terms of maintaining an adequate supply of drinking and irrigation water. Although water quality is discussed in this Element, a more in-depth discussion of water issues can be found in the Conservation and Community Services Element.

OVERVIEW OF HAZARDS

FLOODING

Flood hazards in Colusa County can be attributed to several sources: seasonal overflow of creeks and the Sacramento River, poor drainage in natural basins, and the potential failure of dams on reservoirs impounding the Sacramento River or its tributaries. The county participates in the National Flood Insurance Program of the Federal Insurance Administration, operated under the Federal Emergency Management Agency (FEMA). Figure SAFE-1 shows areas located within the 100-year and 500-year flood zones as identified by FEMA. A 100-year flood zone is defined as an area in which a flood has a probability of occurring once in 100 years, or a 1% chance every year. A 500-year flood zone poses less of a risk, as it is an area with a probability of flooding once in 500 years, or a 0.2% chance every year. These two zones cover nearly one-half of the valley floor, with the most severe hazard areas located along the Colusa Drain and west of Butte Creek. Land outside the levees on

the west side of the river actually is less likely to flood than land along the Colusa Drain, several miles further east. The river is about 5 feet higher in elevation than the Drain; consequently, Colusa, Grimes, and Princeton fall within the 500-year flood plain, while the wildlife refuges fall within the 100-year flood plain.

Federal flood insurance is available to homeowners in the flood plain. No insurance can be obtained for homes which are built either within the designated floodway (see Figure LU-2) or below the elevation of the 100-year flood. However, insurance is available in the 100-year flood plain for homes built with the first floor of living area above the 100-year flood elevation.

Overbank Flooding

Natural channels subject to flooding include the Sacramento River and several creeks throughout the county. These creeks include Turks Creek near Delevan; Freshwater and Salt Creeks near Williams; Whiskey, Elk, and Petroleum Creeks near Arbuckle; as well as Sand Creek, Cortina Creek, Salt Creek, Lurline Creek, Stone Corral Creek and Funks Creek.

Butte Sink, a low-lying trough in nearby Butte County, is used as a flood basin to carry overflow from the Sacramento River. Water is diverted to the Sink from the river through a weir located just north of the City of Colusa. A system of levees prevents the river's floodwaters from inundating Colusa, Princeton, Grimes, and adjacent farmlands. More information on the levees can be found in the Community Services Element of this plan.

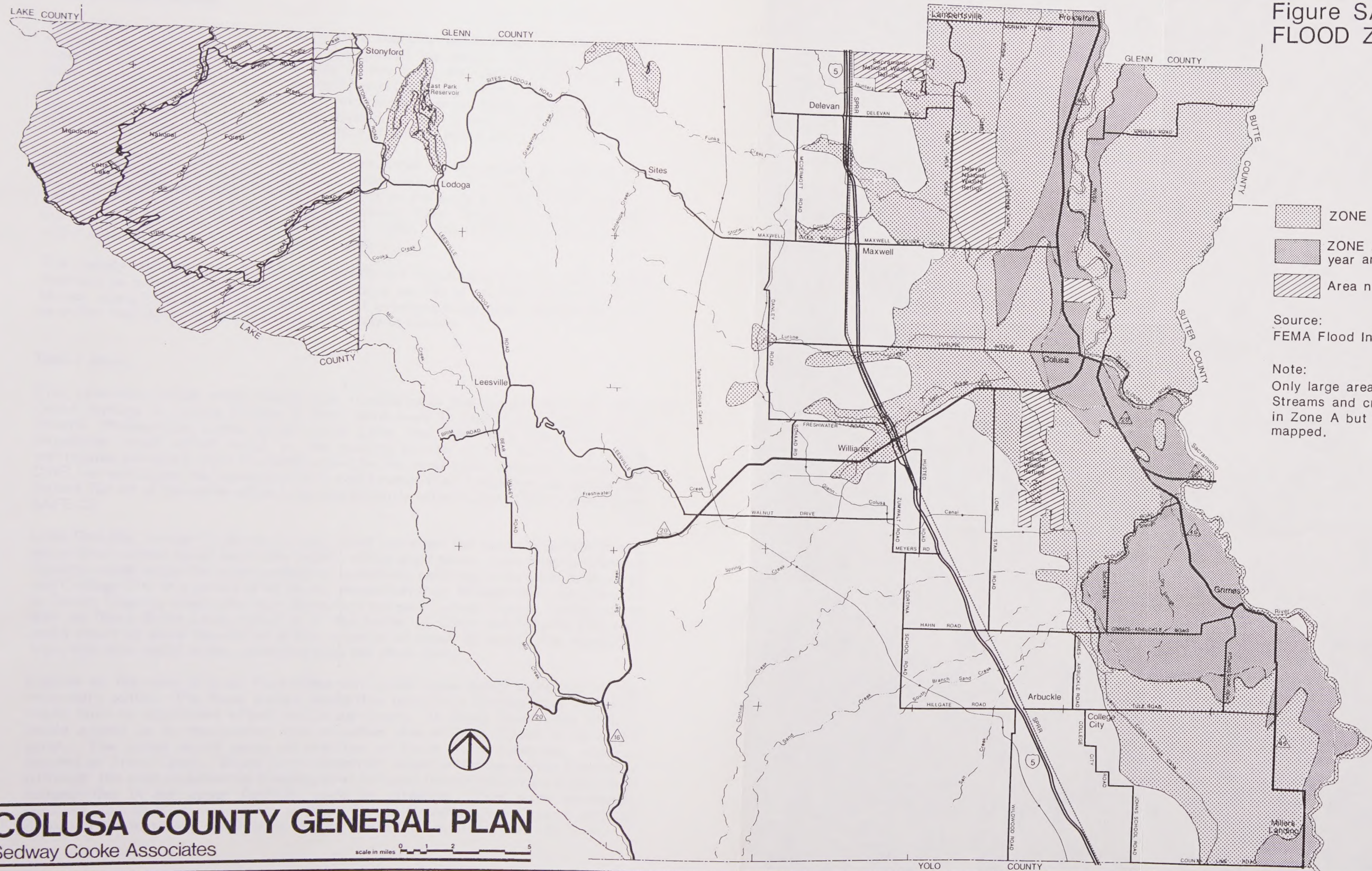
The Sacramento River is bounded by silty loam soils which are subject to seepage problems during high river periods. When the river is high, seepage affects homes near the levees in Colusa, Grimes, and Princeton.

The Sacramento River System is monitored by the State Department of Water Resources (DWR), which provides advance flood warnings. Reports on river levels are routinely received at the Colusa County Sheriff's Communication Center during times of high water. The Colusa County Office of Emergency Services has developed guidelines for responding to Sacramento River flooding, based on river level progression, as measured at the Colusa Bridge. A flood situation generally evolves through a series of five stages:

- o Stage I--Watch Stage. Pre-emergency river level is 60 feet or below at the Colusa Bridge.
- o Stage II--Warning Stage. River level is 63 feet at the Colusa Bridge.
- o Stage III--Alert Stage. River level is 70 feet and forecast to rise, at the Colusa Bridge. Flooding is possible.
- o Stage IV--Danger Stage. River level is 71 feet and forecast to rise at the Colusa Bridge. Flooding is expected.
- o Stage V--General Evacuation. River level is 73 feet and forecast to rise at the Colusa Bridge. Flooding is imminent.

 ZONE A 100 year flood
 ZONE B Areas between 100 year and 500 year flood
 Area not mapped

Note:
Only large areas have been mapped
Streams and creeks are included
in Zone A but have not been
mapped.



Sedway Cooke Associates

scale in miles 0 1 2

Areas of Poor Drainage

The buildup of alluvial fans in the western foothills and sediment carried in floodwaters from the Sacramento River have caused the natural formation of troughs parallel to the river. On the west side of the river, the Colusa Basin stretches 75 miles between the towns of Orland and Knights Landing. Much of the Colusa Basin is a designated flood plain. During the rainy season, as the basin approaches holding capacity, thousands of acres may be flooded. Flooding may inundate roads in the basin, cutting the riverfront communities off from the towns along I-5.

Localized flooding occurs in several communities in the county because of poor natural drainage and inadequate storm drain systems. For example, the City of Williams experienced major flooding problems on the north side during the winter of 1982-83. Arbuckle and Colusa also experience minor flooding in very wet years. (Interstate 5 Corridor Draft Area Plan EIR 1985). The Colusa area experienced a major flood in 1983 and a minor flood in 1986.

The County and the City of Colusa currently are negotiating with Southern Pacific Railroad to purchase or obtain easements on a section of abandoned railroad right-of-way along Highway 20 to Highway 45. It is believed the raised embankment acts as a dike that keeps flood water out of the city of Colusa.

Dam Failure

Five reservoirs which retain water from tributaries of the Sacramento River could cause damage in Colusa County if their dams were to fail: Lake Oroville, Lake Shasta, Whiskeytown Lake, Black Butte Lake, and East Park Reservoir. Dam inundation could affect much of the eastern portion of the county. A major earthquake centered close to a dam would be the most likely cause of failure. The DWR has estimated the inundation that would result from a hypothetical severe dam failure for all of the dams which could significantly affect Colusa County (see Figure SAFE-2).

Lake Oroville, located in Butte County, would represent the most immediate threat, since flood waters could reach the county within eight hours. Lake Shasta, in Shasta County, could cause the most extensive inundation, reaching as far west as Maxwell and College City in a period of 42 hours. Inundation from Whiskeytown Lake, located in Trinity County, would take over three days to reach Colusa County. Failure of the dam on Black Butte Lake, which is on the border of Glenn and Tehama Counties, could result in some inundation within a period of about 35 hours. The inundation from this lake would be less extensive than the other dams.

Failure of the dam at East Park Reservoir could cause minor inundation at the reservoir's outlet. The flood waters would flow into Glenn County; thus, its failure would have no significant effect on Colusa County. In Glenn County, the flooding would extend up to one-quarter mile on either side of Stony Creek at its widest point. The water would cause an overflow of Stony Gorge Reservoir, which is located on Stony Creek. Black Butte Reservoir would retain the excess inundation. Although the area of potential flooding does not pass through urbanized areas, small communities in the upper foothills could be affected. Thus, some emergency response coordination is needed between Colusa County, Glenn County, and the Bureau of Reclamation, which owns and maintains the East Park Reservoir Dam.

The inundation scenarios shown in Figure SAFE-2 were based on hypothetical worst-case dam failures and are best used for emergency planning and response purposes. Depending on the severity of an actual dam failure, inundation could be much less severe than that predicted by these scenarios.

Flood Control Measures

A California law (SB428) enacted in 1983 allowed Colusa County to form a flood control and drainage district and "zones of benefit" within the district to solve local drainage and flooding problems. After a zone is formed, residents can vote to levy assessments to improve their local drainage problems. As described in the Community Services Element, the first such zone was formed in Colusa in 1987. Concurrently, a bill which passed the State Legislature in 1987 (SB 1338) established the Colusa Basin Drainage District--a regional area that includes portions of Colusa, Glenn, and Yolo Counties. Since flooding is not only a local problem, but a regional one, the district's aim is to coordinate flood control efforts among basin agencies.

Implications for Development

Nearly all of Colusa County's communities experience some degree of flood hazard. Princeton, Colusa, and Grimes are entirely within the 500-year flood plain, while flood plains associated with seasonal creeks affect Maxwell, Arbuckle, and Williams. The Sacramento River communities will always be confronted with the danger of flooding from breached levees, and with seepage problems during periods of high water. As this hazard affects the entire community rather than a specific geographic area, it does not constrain growth in a discrete section of town. However, it does reinforce the importance of regularly maintaining the levees and being sufficiently prepared for a catastrophic flood. The presence of more frequently flooded areas close to these towns suggests that major transportation routes may be flooded during heavy rains.

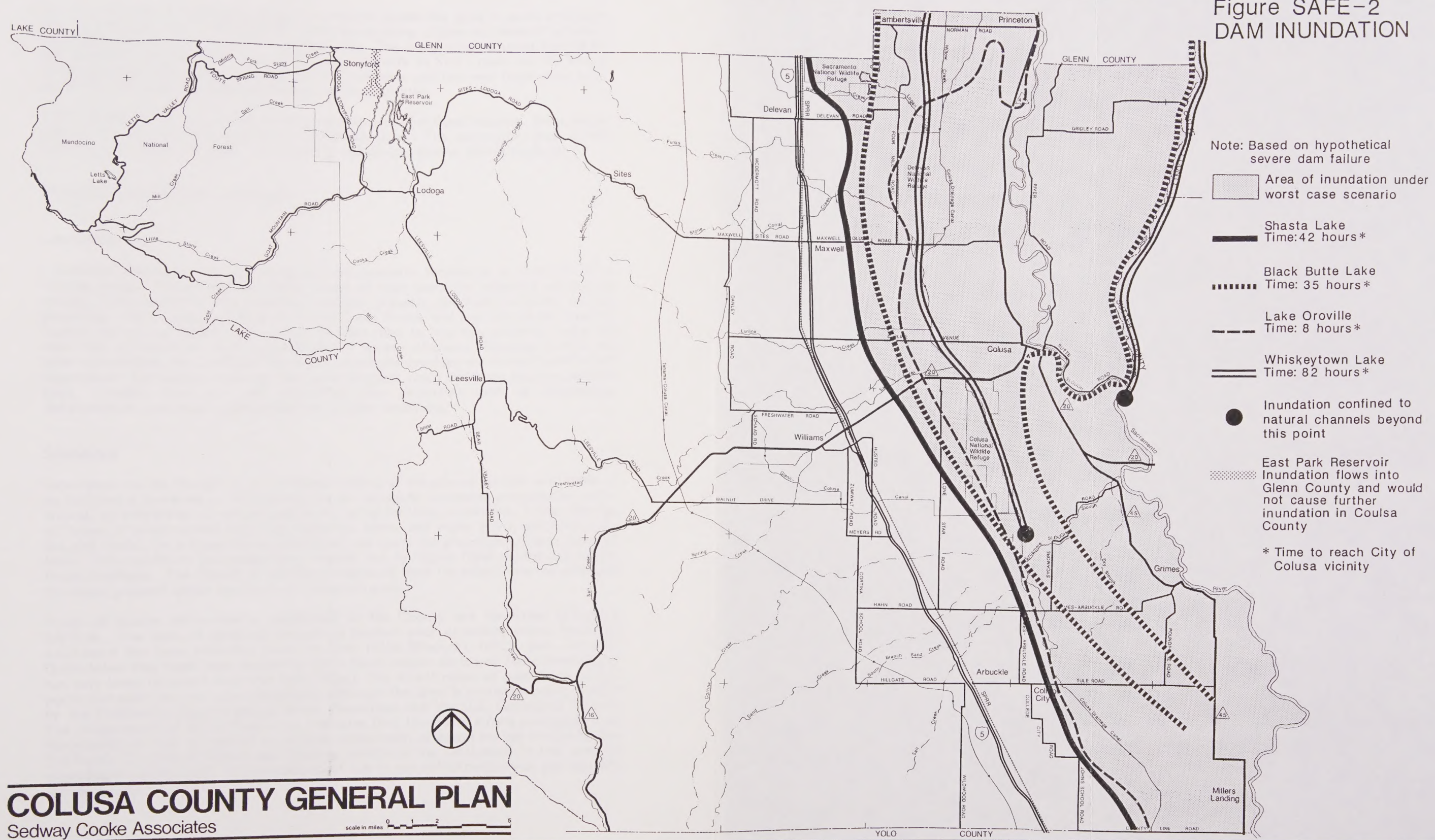
Although the possibility of catastrophic flooding in Colusa, Princeton, and Grimes is remote, this inherent hazard makes these towns less suitable for growth than the communities at slightly higher elevations along I-5. Growth which occurs in these communities should conform to requirements of the federal flood insurance program.

The Arbuckle, Williams, and Maxwell areas are each traversed by creeks which are subject to seasonal flooding. Northwest of Arbuckle, Elk Creek and Salt Creek are susceptible to minor overbank flooding. No development has occurred within the flood plains of those creeks to date, and none is recommended in the land use plan. Within the developed portion of Arbuckle, localized flooding problems are associated with poor storm drainage. While these problems do not constrain the town's growth or threaten human safety, they create a nuisance during heavy rains and should be corrected through structural improvements.

The problem is much more extensive in Williams, where the 100-year flood plain of Salt Creek affects a swath of land nearly 4,000 feet wide north of the city and 2,000 feet wide east of the city. The Salt Creek flood plain covers land in both the city and the county and affects developed as well as undeveloped properties. Natural drainage patterns are complicated by the numerous man-made barriers in the area, including the railroad, I-5, and the Highway 20 bypass. Past flooding has caused extensive property damage north and east of town.



Figure SAFE-2
DAM INUNDATION



The land use plan for Williams directs the town's residential growth south and industrial growth east of I-5, avoiding the flood-prone area. However, several parcels in the flood plain are shown for future urban uses. The designation assumes that FEMA will redefine the flood plain following improvements to Salt Creek and the storm-water drainage system in Williams. Until FEMA does confirm new flood plain boundaries for this area, development should not be permitted.

North of Maxwell, Stone Corral Creek presents potential flood hazards. Some development has already occurred within the flood plain. The community plan directs future growth away from this area, thereby reducing potential future hazards.

GEOLOGIC AND SEISMIC HAZARDS

Landslides

Landslides present a risk to human life and property located in or directly below hillside areas. Figure SAFE-3 shows areas of high landslide potential within the county. Soils subject to movement are shallow, gravelly, and have low water holding potential. These areas are located in the Coast Range and foothills of the western county and are not heavily populated. Besides risks to life and property, there are also risks of landslides blocking roads and of roads collapsing. Because of this and other constraints, the Land Use Element discourages development in the foothills and mountains. Earthquake shaking frequently triggers rapid slides on sloping unstable land. Heavy rains and soil saturation, plus activities such as excavation, deforestation, and slope undercutting can trigger landslides.

Subsidence

Subsidence can be thought of as localized sinking of the ground surface with little or no horizontal movement. Subsidence can be caused by excessive groundwater withdrawal, by extraction of natural gas or oil, or by tectonic movement. It can damage all types of construction, including buildings, sewer and water pipes, gas lines, canals, and roads. On a broad scale, subsidence can lower the elevation of large areas of land. This results in increased flood hazard due to higher flood depths and longer flood durations. The threat of subsidence depends upon its extent over an area and the slope gradient which results from its occurrence.

Areas of known and potential subsidence in the County are identified in Figure SAFE-4. The area of greatest concern is located near Arbuckle, where localized subsidence has been recorded since the late 1960s (Blodgett, USGS, pers. comm.). (Subsidence may have been occurring for a much longer period of time; however, it has only been recorded since the late 1960s.) The direct cause of subsidence in this particular area has not been identified, although the area is currently being studied by the California Department of Water Resources and the U.S. Geological Survey. The Department of Water Resources indicates that there is a strong possibility that the subsidence may be related to tectonic movement, although earlier studies by the California Division of Mines and Geology attribute the subsidence in this area to groundwater withdrawal. It is probably not due to gas withdrawal, since gas deposits are very deep.

Subsidence does not generally constrain development if enough is known about the rate and characteristics of the movement. For Colusa County, it is important that subsidence be investigated so that corrective measures can be taken.

Expansive Soils

Expansive clayey soils increase in volume when wet and shrink in the process of drying. Structures built directly on soils having this characteristic can suffer structural damage from differential movement of foundations and cracking of pavements and foundations. As Figure SAFE-4 shows, a majority of the county contains highly expansive soils. These soils impose major limitations for building foundations, utilities, and roadways; however, standard engineering techniques can effectively reduce potential structural damage.

Volcanism

Volcanic eruptions have the potential to destroy structures, pollute water systems, ruin farmlands, and devastate the natural landscape. Sutter Buttes is an inactive volcanic plug located east of Colusa County. According to the U.S. Geological Survey, there has been no recorded volcanic activity associated with this geologic feature during the last 1.4 million years and future activity is not expected.

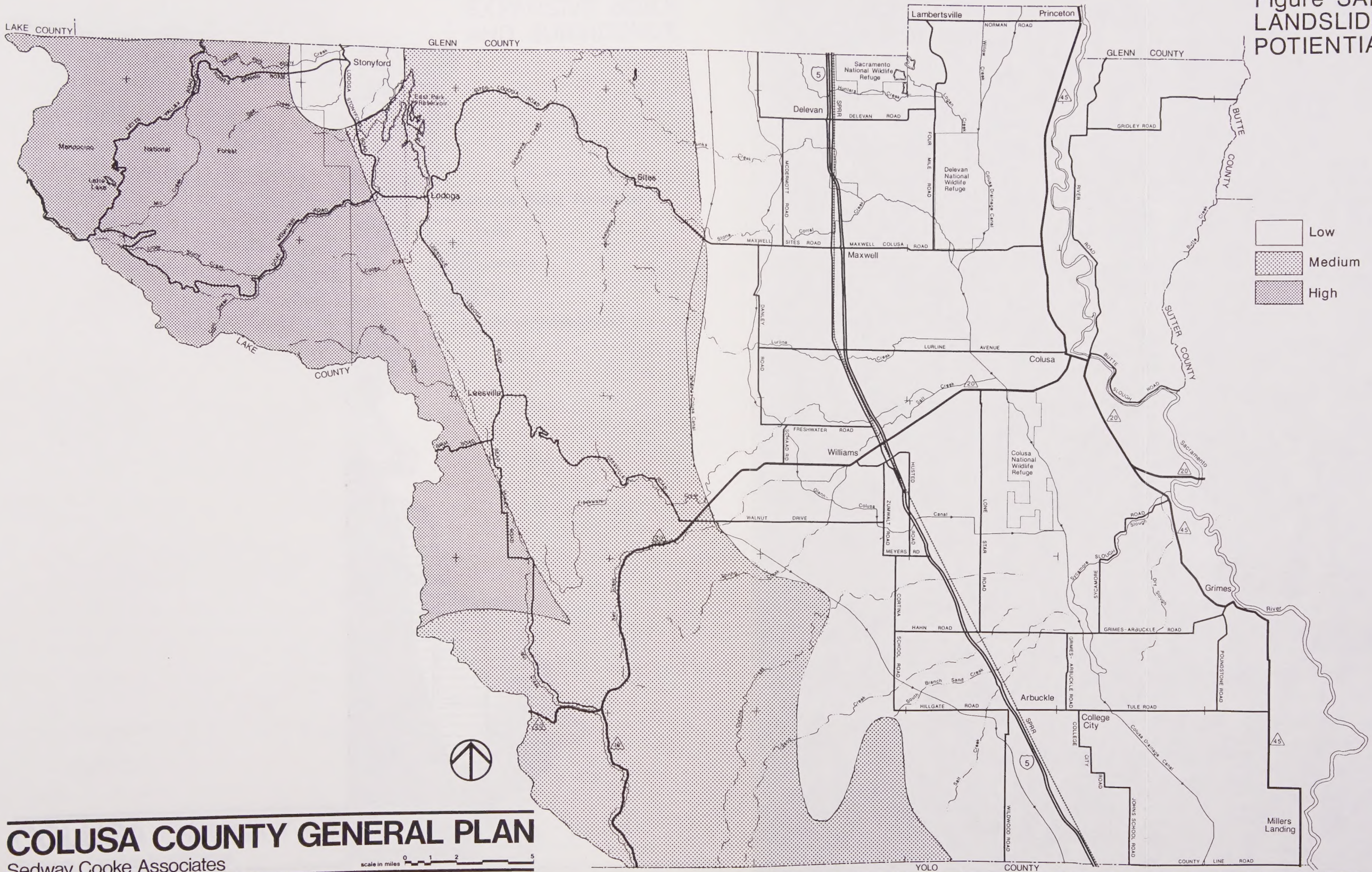
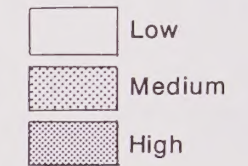
The closest area of volcanic activity to Colusa County is Mount Konocti, 45 miles west of Williams. Mount Konocti is the most recent large volcano in Lake County, and volcanic deposits as young as 9,000 years old are known to exist. Future eruptions would be expected around the eastern arm of Clear Lake, to the north and east of Mount Konocti, and near High Valley and Chalk Mountain in Lake County (Lake County General Plan 1981). Colusa County would not be expected to experience volcanic hazards associated with an eruption of Mount Konocti.

Lassen National Forest, located in the southeast corner of Shasta County, is at the southern end of the Cascade Range, an active volcanic chain that extends northward into British Columbia. As the recent history of Mount St. Helens indicates, the Cascades are still young and active. The most recent volcanic activity from Lassen Peak occurred in 1914-1917 when eruptions produced lava flows on the flank of the crater, numerous ash falls, and a large mudflow. Since Colusa County is located downwind from this relatively active volcano, it is possible that a major eruption could deposit ash over portions of Colusa County. Significant damage is not expected.

Erosion

Erosion is a naturally occurring process involving the removal of soil from one area through wind and water and the deposit of this material in another area. Erosion can be accelerated by human activities such as grading, burning, grazing, irrigation, and cultivation. Soils in Colusa County are susceptible to varying degrees of erosion based on their organic matter content, depth, soil texture, and slope. The U.S. Soil Conservation Service (SCS) rates soils according to the degree of soil loss that can occur per acre per year while still maintaining agricultural viability. This rating is called a "T Factor" and is based on the depth of a soil. T Factors range from 1 to 5, with 1 being very poor and 5 being very good. The valley soils of eastern Colusa

Figure SAFE-3
LANDSLIDE
POTENTIAL

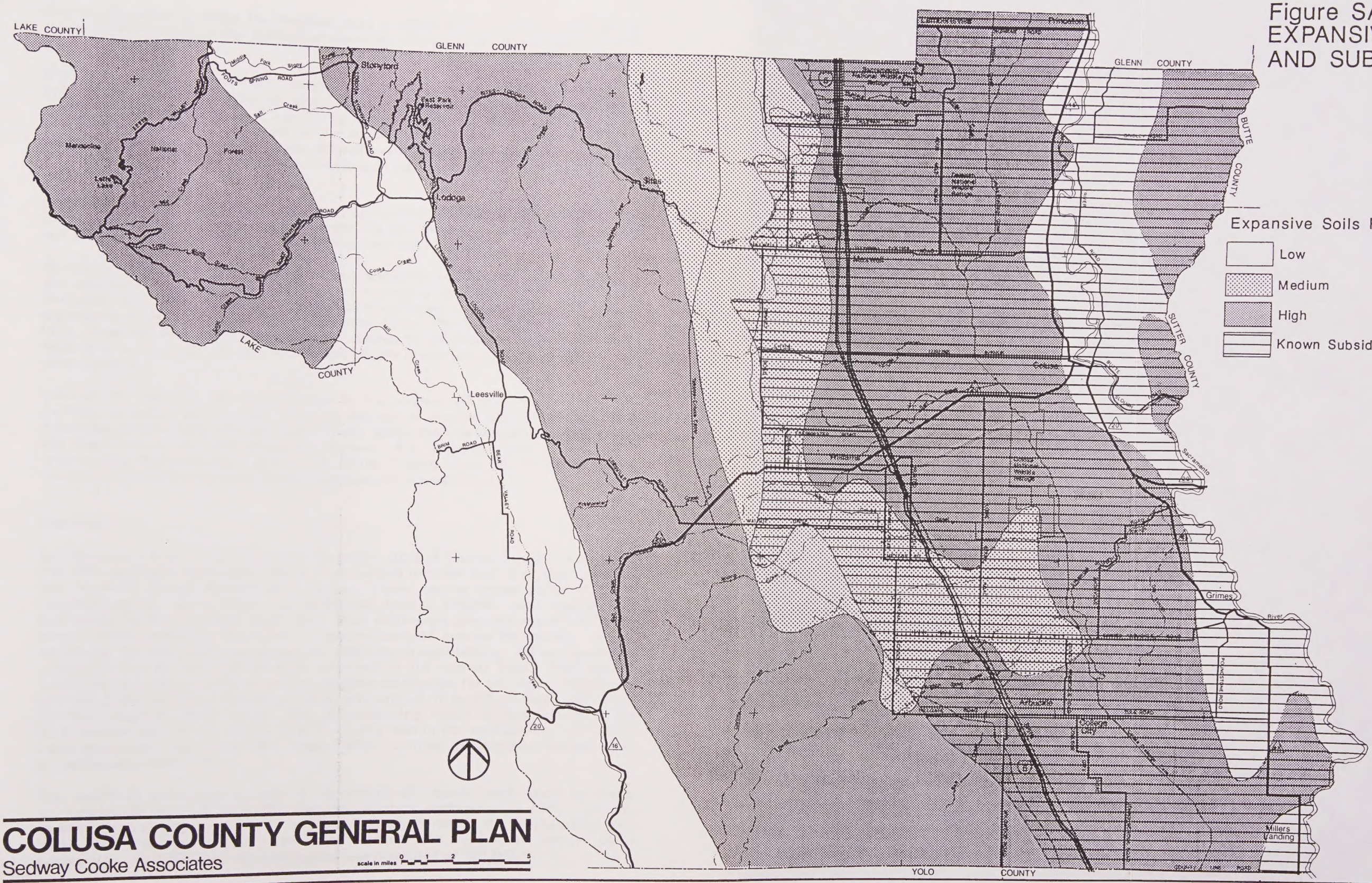


COLUSA COUNTY GENERAL PLAN

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scale in miles 0 1 2 5

Figure SAFE-4
EXPANSIVE SOILS
AND SUBSIDENCE



County are rated 5, while the foothills have a rating of 2-3. In the mountainous areas, approximately at the 5,000-foot elevation where timber grows, the soils have a T Factor rating of 5.

With the exception of riverbank areas along the Sacramento River, a majority of soils in the river flood plain and basin areas of the county are not susceptible to severe erosion (see Figure CO-6 in the Conservation Element). The flow and overflow of streams causes most of the erosion in this area. Overflow results in deposits of silt and sediment. Dikes, ditches, levees, and drains tend to concentrate and accelerate overflow, sometimes resulting in bank and gully erosion (Clenenden & Associates, 1982).

North of the City of Colusa, the Sacramento River makes several wide swings. Considerable bank erosion takes place along this portion of the river. Deposits of silt and sediment occur on the land between the river and its levees.

West of the river basin area, channels which drain the foothills are subject to erosion and deposition, with the older soils subject to more erosion than more recent soils. Orchards within the Arbuckle almond district planted on Arbuckle and Hill soils experience erosion during heavy or protracted rains. West of Arbuckle in the foothills, areas occupied by Rumsey soils are subject to considerable gully and stream-bank erosion, and are the source of most of the gravel and cobbles which fill the drainageways.

Soils in the foothills and Coast Range in the western portion of the county are shallow, gravelly, and sloping. Varying degrees of erosion occurs in these areas depending on the slope and soil type. Sheet, gully, and streambank erosion occur in the mountainous and intermountain regions. For instance, Bear Creek was a meandering, shallow stream in the late 1800s. Today, it has 10- to 15-foot banks. Streams which drain into Bear Creek have also cut downward.

Seismicity

Seismic safety hazards exist through the entire state of California. It is recognized that the northern Sacramento Valley floor--which includes part of Colusa County--can regularly expect low-intensity shocks. There are no known active faults in Colusa County. Most faults are quaternary (active 200,000 years ago) or pre-quaternary (active 2 million years ago). Most earthquake preparedness efforts in the county have considered the effect of quakes centered outside the county. In such instances, the area could be subject to moderate groundshaking. An earthquake of magnitude 5.7 on the Richter scale centered at the nearest known fault (at the Sutter Buttes), which is the maximum credible earthquake for this fault, could cause groundshaking in Colusa County up to an intensity of VI to VIII as measured on the Modified Mercalli (MM) scale. The groundshaking would be less intense in the northwestern half of the county (MM VI or VII) than in the southeastern half (which could experience MM VII or VIII). Table SAFE-1 outlines the Modified Mercalli scale of earthquake intensities.

The results of earthquake activity in the vicinity of Colusa County could be similar to that which resulted from the Vacaville-Winters earthquake of 1892. Groundshaking was estimated at IX MM at its epicenter; VI MM in the southeastern two-thirds of Colusa County; and V MM in the northwestern third of the county. (As a comparison, the 1983 Coalinga earthquake was measured at VIII MM.)

Table SAFE-1: Modified Mercalli Scale of Earthquake Intensities

<u>Intensity</u>	<u>Observed Effects</u>
I-II	Shaking usually not felt, although swaying trees, structures or bodies of water may be observed.
III-V	Usually felt by people indoors, but shaking may not be recognized as caused by an earthquake; it is similar to the shaking caused by the passing of trucks. Hanging objects swing; doors and windows rattle. Doors may swing and dishes may rattle.
VI-VIII	Felt by everyone, with no doubt as to the cause. Objects fall from shelves. Damage to structures minor to moderate; especially in unreinforced masonry, chimneys, and architectural ornaments.
VIII-IX	General fright, waves on bodies of water, small landslides triggered. Damage moderate to major: general damage to foundations, partial to complete collapse of unreinforced masonry structures, partial damage to reinforced masonry. Underground pipes broken.
X-XII	General panic. Large landslides, cracks in the ground. Destruction of most buildings, underground pipelines broken.

Note: This intensity scale is older and more subjective than the more familiar Richter scale, which measures the magnitude of an earthquake in terms of the energy released at the epicenter.

Source: John T. Alfors, et al., Urban Geology Master Plan for California, CDMG Bulletin 198, 1973.

According to the Division of Mines and Geology, the possibility of a major earthquake in the area cannot be entirely ruled out. Four minor quakes on an unknown fault in the foothills occurred in April and May of 1985, the largest registering 3.7 on the Richter Scale. Moreover, the 1983 Coalinga quake that measured 6.7 on the Richter Scale occurred on an unknown fault in an area geologically similar to western Colusa County. A 1987 geological study found that additional earthquakes of magnitude 6.5 were likely between Vacaville and Williams (Eaton, 1987).

The threat is due to unknown faults created by the folding of the coastal mountains as they push eastward against the Sacramento Valley. While motion between the Pacific Plate and the North American Plate is generally to the northwest, the Pacific Plate also creates eastward pressure. The pressure results in "thrust faults", so named for their vertical motion. A buried thrust fault is believed to have caused the October, 1987 Whittier earthquake in the Los Angeles area.

In the event of an earthquake, the hardest hit area would probably be downtown Colusa, with its numerous unreinforced brick buildings. If a serious quake occurs, the county would utilize the same disaster plan used for flooding and other emergencies. Despite the low risk, the Office of Emergency Services recommends that county residents keep enough food and water on hand for up to a week. While it is does not appear necessary at this time for Colusa County to plan for a major seismic event, the county should respond if geologic evidence indicates that the faults are active.

WILDFIRE

Wildfires are a potential hazard to development located in the foothill and mountain areas of the county. An average of 4 fires burn approximately 2 acres per year in the portion of the Mendocino National Forest located in Colusa County (Stonyford Fire District, personal communication). Over a 10-year period, an estimated 12 wildfires burned approximately 386 acres of State-managed lands in Colusa County (California Department of Forestry, personal communications).

The U.S. Forest Service, U.S. Soil Conservation Service (SCS), State Department of Forestry, Bureau of Land Management, and private land owners collectively attempt to reduce fire hazards throughout the County through the Coordinated Resource Planning Program developed by the SCS. One of the primary objectives of this program is to reduce wildfire and range fire hazard through the use of prescribed burning. The Stonyford Fire District estimates that approximately 4,000 to 5,000 acres of land are burned per year through prescribed burning (Stonyford Fire District, personal communications). The fires in the summer of 1987 burned over 6,000 acres of land in the Mendocino National Forest, including several hundred acres of private land.

The severity of wildfire problems depends on a combination of vegetation, climate, slope, and people. The California Department of Forestry bases the severity of fire hazards on three of these factors: vegetation, climate, and slope. Figure SAFE-5 shows portions of the county which are highly susceptible to fire hazard. The grassland, chaparral, woodland, and forest vegetation found in these areas, coupled with hot, dry summers, present extreme fire hazard during critical fire periods for approximately 50 percent of the County. In addition to natural factors such as light-

ning, human activity is a primary factor contributing to the incidence of wildfires in these areas. Campfires, smoking, debris burning, arson, and equipment use are cited as common causes of wildfires. Recreational areas in the County are considered extremely hazardous because human activity is generally greatest during critical fire periods (California Department of Forestry). A more detailed review of fire protection measures and policies is contained in the Community Services Element of the General Plan.

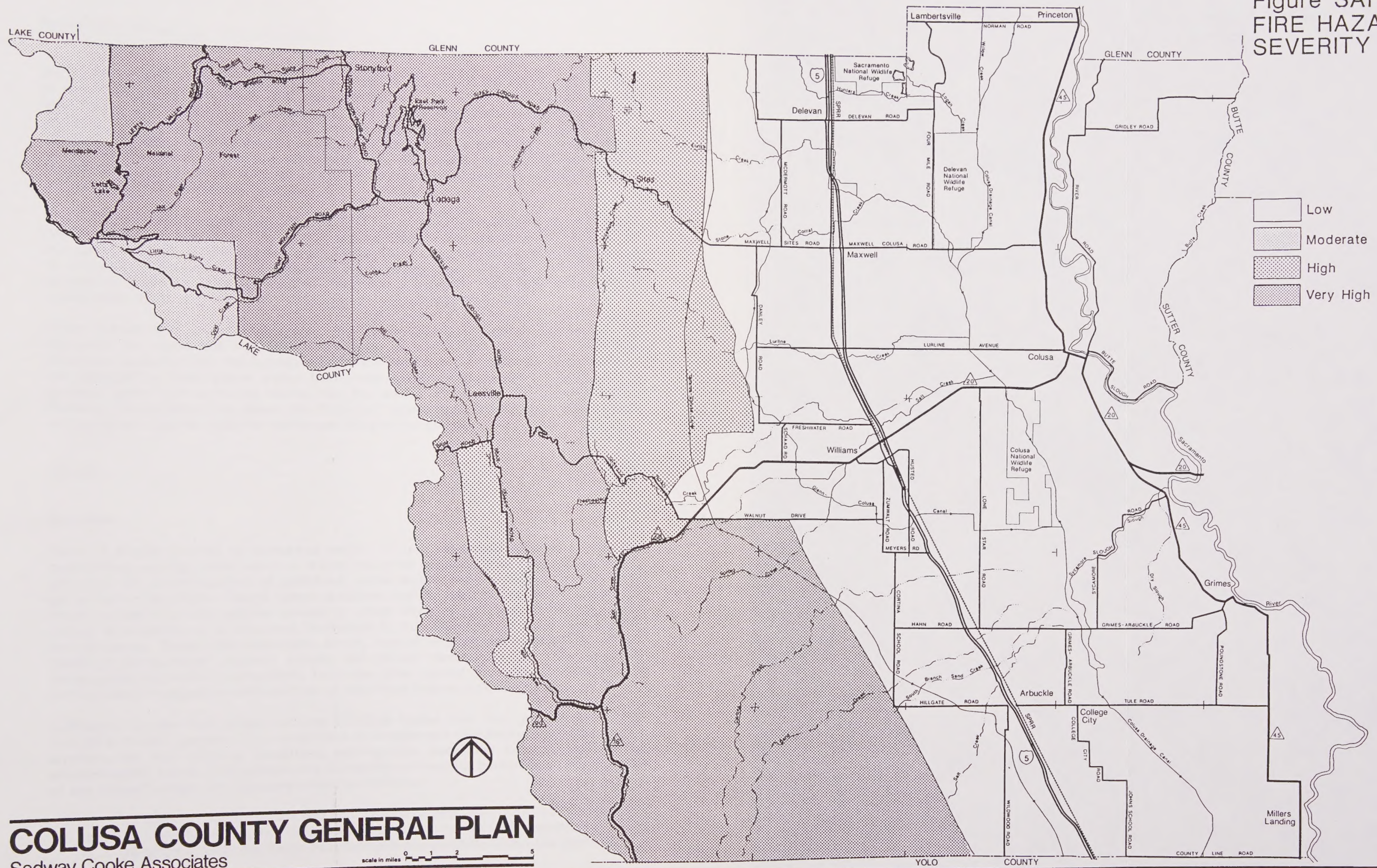
HAZARDOUS SUBSTANCES

A majority of the hazardous substances used in the county are associated with agricultural operations and production. Pesticides, including insecticides and herbicides, are widely used and are applied through aerial and ground application. Interstate Highway 5, Highway 20, and the Southern Pacific Railroad are major routes for hazardous materials brought into or transported through the County. The storage, handling, and disposal of hazardous materials is regulated by the County Department of Agriculture and the County Office of Emergency Services. Recently enacted state legislation, AB 2185 and AB 2187, requires that businesses report the types and amounts of hazardous materials they use to the County Office of Emergency Services. Additionally, businesses must provide emergency response plans for a release or a threatened release of hazardous materials. Farmers are exempt from reporting to the Office of Emergency Services because they are required to provide a yearly inventory of hazardous materials in use to the County Agricultural Commissioner. This inventory is then forwarded to the Office of Emergency Services.

The county's solid waste disposal system is profiled in the Community Services Element. Air and water quality at the Evans Road and Stonyford Landfills is regulated by the State and County under AB 3374, known as the Calderone Act. This Act requires a one-time solid-waste assessment test of air and water quality on all non-hazardous landfills. The solid-waste assessment test (SWAT) report is then submitted to the Regional Water Quality Control Board, which regulates disposal sites, for its review. The Act required that all air quality testing be completed by the end of 1987. For water quality testing, sites were ranked statewide to establish a schedule for testing. The Evans Road Landfill was ranked 2, requiring completion of testing in 2 years, and Stonyford Landfill and Maxwell Transfer Station were ranked 4, requiring completion of tests within the next 4 years (J. Krug, personal communication).

The County Department of Agriculture monitors the Evans Landfill on a regular basis to ensure safe dumping of all hazardous wastes and to avoid possible future contamination. However, after May 1991, hazardous wastes will not be allowed to be placed into landfills, pursuant to state law. As noted in the Community Services Element, the Tanner Act (AB 2948) provided an incentive to California counties by providing funding to study their hazardous waste problems and to devise siting requirements for disposal. Based on the recommendations given by the counties that participate in the study program, a statewide plan for disposal of hazardous wastes will be developed. In conjunction with this study, a Colusa County Hazardous Waste Management Plan Advisory Committee has been formed. The Advisory Committee and County Director of Environmental Health are working on a public awareness program to explore how the quantity of hazardous materials currently being generated (six pounds per person per day, including household waste) can be reduced.

Figure SAFE-5
FIRE HAZARD
SEVERITY ZONES



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

INJECTION WELLS

An injection well is an abandoned gas well used to dispose of the saline water which is drawn up during petroleum and gas extraction. The wastewater is disposed by injecting it into the ground. This disposal method has generated controversy for two reasons. First, there is the potential for the saline water to leak into groundwater supplies. Second, there is some concern that toxic substances may be illegally injected into the wells. There is a consensus in the county that the environmental impact of injection wells needs to be studied more closely and that use of the wells should be regulated more stringently.

The California Division of Oil and Gas (CDOG) presently regulates the drilling of wells and issues permits for injection. Colusa County also issues well permits, but has not developed drilling regulations. Under CDOG regulations, precautions taken to prevent saline leakage include placing a steel pipe into the well hole and cementing it before injection begins. Mechanical integrity tests are performed on wells once a year, and CDOG officials inspect well sites periodically.

After considerable public controversy, the Colusa County Planning Commission has approved two additional injection wells, both of which are subject to mitigating measures prescribed by the County's Technical Advisory Committee. The measures are designed to keep saline water from leaking into groundwater supplies and to prevent users from pumping toxics into the wells. Recently, the Colusa County Planning Commission has asked the Board of Supervisors to consider enacting an ordinance to regulate injection wells operating in the county.

NOISE

Overview

Noise is simply defined as unwanted sound. It is a byproduct of urbanization not unlike smog, sewage, solid waste or any of the other residuals that result from human activity. As an environmental pollutant, noise usually receives less attention than air or water pollution. Sound waves dissipate rapidly and do not leave behind the visual or chemical degradation caused by other kinds of pollution. However, noise should be regarded as a very real limitation to the development of certain uses in certain areas. Noise can cause pain, stress, loss of hearing, and irritability. It can interrupt sleep, lower property values, and disrupt community life. To minimize these problems, each community's land use plan should promote a development pattern which recognizes both sources of noise and "noise-sensitive" uses.

California Government Code Section 65302(g) states that the general plan must include a Noise Element. It is acceptable to incorporate this element into the safety element, for like flooding, landslides, earthquakes, and other hazards, noise is an environmental factor that affects the suitability of land for human use. The purpose of the Noise Element can be summarized as follows:

- o to identify noise sources and appraise noise problems in the community;
- o to identify noise sensitive areas, such as rest homes and hospitals;
- o to project noise for major sources such as Interstate 5 and the railroad;

- o to minimize the number of people exposed to uncomfortable levels of noise in the future; and
- o to provide the basis for local programs or ordinances which control and abate environmental noise.

In addition to its safety implications, noise is also a fundamental concern in the Land Use, Circulation, and Housing Elements. One objective of the Land Use Element is to encourage a development pattern that is compatible with current and future noise conditions. Likewise, the Circulation Element promotes traffic patterns and road designs which minimize the intrusion of noise into existing and planned residential areas. The Housing Element, meanwhile, promotes decent, healthy, and quiet living environments for county residents.

In a rural county like Colusa, noise is perceived as a relatively minor problem. There are no large urban centers or major airports, few noise-producing industrial uses, and few congested highways. Agricultural noises, such as the hum of cropdusters or washing and scraping at plum packing sheds, are viewed by most residents as part of life in a farm community. In some parts of the county, residents have lived beside rice dryers or concrete batch plants for years and have become accustomed to their sound qualities.

Noise in Colusa County can become a more serious problem under two circumstances: first, when a new noise source is introduced in an area where residents are accustomed to quiet; and second, when new housing is introduced in an area where the existing noise levels exceed the new residents' expectations. The first situation might arise very gradually, for instance as traffic increases on a major thoroughfare. It may also arise suddenly, as a new industry begins operation or a new road is opened to traffic. The second situation could arise if new homes were built within close range of a landing strip, freeway, or industry. Good planning and sound insulation guidelines can effectively prevent this situation from occurring.

Measurement of Noise

The human perception of noise is usually defined in **decibels (dB)**. Decibels are measured on a logarithmic scale, so that each increase of 10 dB is equivalent to a doubling in loudness. The measurements are usually taken on an "A-Weighted" scale which filters out very low and very high frequencies in a manner similar to the human ear. The letter "A" is added to the decibel abbreviation to indicate the use of the A-weighted scale (dBA).

Decibel readings for common noise sources are shown in Table SAFE-2. Everyday sounds range from 30 dBA, which is very quiet, to almost 100 dBA, which is very noisy. At 70 dBA, noise can become irritating and disruptive. When noise levels reach 75 dBA for prolonged periods, some hearing loss may occur and noise is likely to be identified as the major source of annoyance by the community.

Noise measurements are usually expressed with some indication of the duration of the measurement period. For longer periods, the measurement reflects the average noise level over the period. Adjustments are usually made to reflect the greater sensitivity of people to noise at night. For instance, the term **Community Noise Equivalent Level (CNEL)** is used to describe the average noise level during a 24-hour day, with a penalty of 5 dBA added to sound levels between 7 and 10 PM and a

Table SAFE-2: Typical Sound Levels for Common Noise Sources

<u>QUALITY OF SOUND</u>	<u>SOUND LEVEL, dBA</u>	<u>TYPICAL SOUNDS</u>
UNCOMFORTABLY LOUD (THRESHOLD OF PAIN)	130	
	120	Jet takeoff at 200 feet
	110	Thunder
VERY LOUD	100	Rock band
	90	Power lawn mower
	80	Diesel bus at 15 feet
	70	Motorcycle at 25 feet
LOUD	60	Inside sports car, 55 mph
	50	Garbage disposal at 3 feet
	40	Freeway traffic at 50 feet
QUIET	30	Vacuum cleaner at 10 feet
	20	Inside department store
	10	Normal conversation
VERY QUIET	0	Quiet street
		Average residence
		Quiet room
BARELY AUDIBLE		Whisper at 5 feet
		Leaves rustling
THRESHOLD OF HEARING		Mosquito at 3 feet

Source: 1985; U.S. Environmental Protection Agency, Fundamentals of Noise: Measurement, Rating Schemes, and Standards, December 1971, p. 29; SCA.

penalty of 10 dBA added to sound levels between 10 PM and 7 AM. The term **Day-Night Average Level (L_{dn})** is similar, but does not include the 5 dBA penalty for evening noise. Shorter measurement durations (typically one hour) are described as **Energy Equivalent Levels (L_{eq})**, indicating the total energy contained by sound over a given sample period.

Use of the longer measurement period accounts for the variations in the frequency of sound levels that occur during the day. For instance, a train may produce a sustained noise level (L_{eq}) of 80 dBA during the one minute it passes through Arbuckle. However, if only one train passed through the town each day, the L_{dn} or CNEL reading would be considerably lower than 80 dBA.

The US Environmental Protection Agency has suggested a noise reduction goal of 55 dBA (L_{dn}) in residential areas for the protection of health and welfare. The US Department of Housing and Urban Development's minimum standard for noise in residential areas is 65 dBA (L_{dn}). CNEL or L_{dn} levels can be mapped using contour lines around major noise generators. The contours typically correspond to 5 dBA intervals and the maps include all contours greater than 60 dBA (L_{dn}). The 60 dBA cut-off corresponds to the state requirement that all new housing with exterior noise levels exceeding this level be insulated. As a guideline, interior noise levels should be no louder than 45 dBA (L_{dn}). Since noise reduction provided by a typical house is 12 to 18 dBA, additional insulation is usually required where exterior noise exceeds 60 dBA.

Colusa County has yet to undertake a community-wide noise survey and a mapping of noise contours exceeding 60 dBA. However, sufficient data has been collected for the community's primary noise sources to determine the severity of existing noise problems and to develop noise compatibility criteria for future development. Data from adjoining counties with similar conditions is also helpful in documenting the local noise environment.

Existing Noise Environment

One of the most valued qualities of Colusa County is that it is quiet. Typical noise levels on a tomato farm over a 24-hour period are about 44 dBA. The 24-hour noise level in a typical upland valley area is about 40 dBA. Even along county roads in undeveloped areas the average noise level in a day is 50 dBA. These noise levels are typical of a rural, uncongested environment.

The primary sources of noise in Colusa County are highways, namely Interstate 5 and Highway 20; the Southern Pacific railroad; low-flying airplanes; agricultural industries; and farm machinery. Noise is also generated within each community through every-day activities such as lawn-mowing, leaf-blowing, or chain-saw operation.

Streets and Highways. Based on the noise typically generated by different volumes of highway traffic, the only highways with L_{dn} readings regularly exceeding 60 dBA are Interstate 5 and Highway 20. Sutter County's Noise Element identifies "noisy" streets as those carrying over 5,000 vehicles per day. With I-5 carrying about 15-18,000 vehicles per day and Highway 20 carrying up to 10,000 vehicles per day (in Colusa), these two highways are the only roads in Colusa County exceeding that volume. The third busiest road, Highway 99 W, seldom exceeds 3,000 vehicles per day.

Isolated segments of road, particularly inclines in the western part of the county, may have higher L_{dn} readings, but generally through unpopulated areas. Other road segments exceeding the 60 L_{dn} level might be present around intersections in towns where truck traffic must stop and start. For instance, the L_{dn} level at the corner of Highway 99 W and County Road 6 in Dunnigan had an L_{dn} reading of 62 dBA (1983, Dunnigan Area Plan). By contrast, the noise level along Highway 45 within Grimes was measured at 54 dBA during a brief sampling period in early 1987.

Of all communities in the county, Arbuckle is the most seriously impacted by traffic noise. While the interstate bypasses Maxwell and Williams, it literally bisects Arbuckle. Noise measurements taken along the freeway south of Arbuckle show an L_{eq} of 75 dBA at the pavement edge, and an L_{eq} of 55 dBA 2,000 feet back from the freeway. Noise measurements were taken at three locations within Arbuckle in 1982 and 1986. The results are summarized below:

<u>Sampling Location</u>	<u>Distance from Freeway Right-of-way</u>	<u>L_{eq} Reading (in dBA)</u>	
		<u>1982</u>	<u>1986</u>
Sixth Street at Eddy	60', freeway at grade	70.5	70.5
Putnam Way at King	30', freeway depressed	68.9	69.5
Sixth Street at Gail	60', freeway at grade	71.0	69.5

The three readings show no substantial change between 1982 and 1986. Sixth Street and Putnam Way provide a buffer on the east and west sides of the freeway right-of-way so that no home directly abuts the freeway. The combination of a depressed road surface and mature street trees along both sides of the freeway help reduce exposure to sound. Nonetheless, there are about 30 homes along Sixth Street and Putnam Way that are subject to noise levels in the range of 70 dBA.

Using standard CalTrans testing procedures, a single family house 400' back from the freeway would receive a sound level of 65 dBA. Drawing such a contour on either side of the I-5 pavement through Arbuckle would encompass about 45 residences on each side of the freeway (including 18 apartments), as well as the town library, Pierce High School, and two churches.

In Williams, there are fewer than five residences within 400' of the freeway. However, the 100-unit County Migrant Labor Camp lies within this zone as does a motel at the I-5/Highway 20 interchange. In Maxwell, there are no homes within 1,000 feet of the freeway pavement and no noise-sensitive uses adjacent to the freeway.

Although noise levels in the city of Colusa have not been mapped, noise contours along Highway 20 are generally between 60 and 70 dBA. Twenty miles to the east in Yuba City, the 65 dBA contour along Highway 20 is about one-half block deep on either side of the roadway. Traffic volumes on Highway 20 in Yuba City are about triple the volumes through downtown Colusa.

Measurements taken prior to the construction of improvements at Colusa Industrial Properties (EIR, 1981) showed a CNEL reading of 68 dBA 100 feet from the Highway 20 centerline and a CNEL reading of 62 dBA 300 feet from the centerline. The latter figure is equivalent to the length of one city block. Other measurements taken at Colusa Industrial Properties indicated the following:

<u>Distance from Hwy 20 Centerline</u>	<u>Noise level exceeded 10 % of the time</u>	<u>Noise level exceeded 50 % of the time</u>	<u>Noise level exceeded 90 % of the time</u>
125 feet	70 dBA	59 dBA	51 dBA
300 feet	65 dBA	50 dBA	49 dBA

In conclusion, traffic noise exceeding 65 dBA affects roughly 15 percent of all Arbuckle residences, and an insignificant number of Maxwell and Williams residences. Traffic noise in the city of Colusa is generally limited to areas within one city block of Highway 20. Several noise-sensitive uses, including the migrant labor camp, public libraries, and schools are affected by traffic noise in the county. The overall impact of traffic noise is softened by the depressed freeway in Arbuckle and the abundance of mature street trees in Arbuckle and Colusa.

Railroad Noise. The Southern Pacific railroad stretches over 30 miles through Colusa County from the Yolo to Glenn County line. The rail line bisects the towns of Arbuckle, Maxwell, and Williams and is abutted by agricultural industries, warehouses, and residences in each of these towns. Between 6 and 9 freight trains use the line in a typical 24-hour period. Railroad noise contours in Dunnigan were mapped in 1981 by Yolo County; since the measurements were for the same rail line under similar topographical conditions, the results may be interpolated to Colusa County:

<u>Sound Level</u>	<u>Distance from tracks</u>
70 dBA	120 feet
65 dBA	260 feet
60 dBA	475 feet
55 dBA	900 feet

Using these parameters, there are 2 homes in Arbuckle within the 70 dBA contour, about 10 homes within the 65 dBA contour, and about 80 homes or apartments within the 60 dBA contour. About 40 of these homes are also affected by high traffic noise from Interstate 5. In Williams, there are 4 homes within the 65 dBA contour and about 27 homes within the 60 dBA contour. In Maxwell, there are 17 homes within the 65 dBA contour and 39 homes (including an 11-unit mobile home park) within the 60 dBA contour.

Airport Noise. The only general aviation facility in the county is the Colusa County Airport. Although there are landing strips throughout the county, they are located in rural, unpopulated areas and are used for cropdusting. There are no residential structures in the landing or take-off paths of the Colusa County Airport. The nearest residential area is about 4,000 feet from the end of the runway, adjoining the Colusa Golf and Country Club.

The 70 dBA CNEL contour surrounding the airport extends approximately 500 feet on either side of the runway. At a distance of 750 feet from the runway edge, the 70 dB contour is about 500 feet wide, and at a distance of 1,500 feet from the runway edge, the contour is about 250 feet wide (1974 Colusa County Noise Element). Since these figures are based on a "typical" general aviation airport and not on actual monitoring at Colusa County Airport, noise sampling in the vicinity of the airport is recommended.

Agricultural/Industrial Noise. The most extensive noise monitoring for agricultural-industrial uses in the county was done in January, 1985 in the 14th Street area of Colusa. This is one of the few areas in the county where a large concentration of noise-producing uses is intermixed with residential uses. Five 12-minute samples were taken in the vicinity of a wood fabrication plant, a PG &E maintenance yard, a rice drying and storage operation, two packing sheds, and a cement batch plant. Noise levels ranged from 45.6 to 55.0 dBA (L_{eq}). Heavy trucks and rice dryers were the primary noise sources.

60 dBA L_{dn} noise contours were mapped around the sources described above, assuming peak harvest activity. A number of homes fall within these contours, generally within 400 feet of the rice dryers or between 100-300 feet of the batch plant and wood fabrication plant.

Noise testing at the Cargill Rice Dryers in Grimes was performed in February, 1987. Using a 214 Sound Level Meter, noise levels were measured with the blowers on and off for short time periods. Results are summarized as follows:

<u>Distance from the Dryers</u>	<u>Noise Level (L_{eq})</u>
Blowers On:	
50 feet	77.5 dBA
100 feet	71.5 dBA
150 feet	69.0 dBA
200 feet	66.0 dBA
500 feet (75' South of Hwy 45)	61.5 dBA
Blowers Off:	
400 feet (Highway 45)	54.0 dBA

The blowers operate continuously for about four months a year. Given the low ambient noise level in Grimes, the data suggests that residential uses are not appropriate within about 500 feet of the dryers unless mitigating measures such as extra insulation or sound walls are provided.

Future Noise Environment

Traffic Noise. The land use and circulation plans have consciously been shaped to minimize traffic noise conflicts in the future. One of the major issues in developing each community plan was relating new development to the projected noise environment. Noise-sensitive uses have generally been sited away from Interstate 5 and Highway 20, which will continue to be the county's most heavily traveled roadways.

A projected 70 percent increase in traffic volumes between 1985 and 2010 will result in wider noise contours along both sides of the interstate. This will exacerbate noise problems in Arbuckle, where a greater number of homes will be subject to freeway noise. Although traffic noise will increase along the interstate through Williams and Maxwell, the adjoining lands are planned for commercial and industrial uses.

Construction of a Highway 20 bypass will improve noise conditions in the city of Colusa. Since the bypass is planned south of the abandoned railroad embankment and

the nearest "Urban Residential" area is about 1000' from the proposed alignment, no major noise problems should result when the bypass is built. Urban Residential development is planned along a half-mile segment of Highway 20 in Williams. Some combination of berms, landscaping, sound walls, setback requirements, and insulation should be used to ensure an acceptable noise environment for new homes in this area.

Increases in traffic noise will occur within planned industrial areas, particularly in Williams and Maxwell. The Environmental Impact Report (EIR) for the Plank Industrial Park (Williams Industrial Properties) projected that by the year 2010, noise levels would increase from 73 dBA to 80 dBA along I-5, from 63 dBA to 70 dBA along State Route 20, and from 55 dBA to 70 dBA along Husted Road. However, the EIR estimated that noise volumes within the developed part of Williams, about a mile away, would only increase by about one dBA as a result of the project.

Railroad Noise. No major increases in railroad use are forecast between now and the year 2010. If rail spurs are constructed within planned industrial areas, noise impacts on nearby areas should be studied. If it is found that the rail spurs could increase noise levels in nearby residential areas to unacceptable levels, measures should be taken to mitigate the impacts.

Airport Noise. As population and employment increase in the county, air traffic at the Colusa County Airport will also increase. Although commercial flight service is not likely, the use of executive jets at the airport may become common during the next 20 to 25 years. Given the amount of land planned for industrial growth in Colusa, Williams, and Maxwell, demand for better air freight facilities could also increase substantially. The combination of increased traffic, executive jet service, and air freight service will necessitate expansion of the airport before the year 2010. In response, a 900-foot extension to the existing 2,800-foot runway has been tentatively planned.

Use of executive jets at the airport could increase the 70 dBA contour from 2,000 feet beyond the end of the runway to about 6,000 feet. The width of the 70 dBA contour could increase from 500' to 1750' at a distance of 800 feet beyond the runway and from 250' to 1,250' at a distance of 1,600 feet beyond the runway (1974 Colusa County Noise Element). Thus, it is important that the runway extension be to the south of the existing airport and not to the north as originally proposed. A southward extension would permit acceptable noise conditions to be maintained in both existing and planned development areas between now and the year 2010. Additional studies of noise impacts are recommended before undertaking any airport improvements.

It is assumed that the number of landing strips in the county will remain about the same between now and the year 2010. Noise from planes taking off and landing at these strips should not increase significantly over the next two decades. No urban development has been planned near existing landing strips, although the strip to the west of Williams is not far from a planned rural residential area. Depending on the pace of development west of Williams, relocation of the strip may become necessary by the year 2010.

Industrial Noise. The land use plan encourages the separation of residential and industrial uses to avoid noise incompatibility. Where such uses abut one another, "light" industry producing relatively low noise levels is recommended. In some areas, such as 14th Street in Colusa, buffer zones of light industry or office uses are planned between existing heavy industrial areas and residential areas. Depending on

future zoning in existing heavy industrial areas, issuance of a use permit to modify the building could be conditioned upon certain noise reduction measures. In areas that are not yet developed, performance standards and design guidelines should be followed to ensure that sound levels in nearby areas do not exceed the standards set in this element.

Mineral Extraction Noise. Some concern has been expressed about the noise generated by mining or quarry operations. Although mining activity in the county is relatively light, it could increase substantially in the future. The blasting, milling, and truck use associated with mineral extraction can be particularly disruptive because the areas where extraction occurs are usually isolated and noise-free. Noise in these areas may scare wildlife, disturb recreational activities, and annoy rural area residents.

The Environmental Impact Statement (EIS) for the McLaughlin Mine near the Lake/Yolo/Napa County border indicated that a proposed gold mining operation would result in L_{dp} noise levels of 74 dBA 1,000' from the mine, 66 dBA 2,000 feet from the mine and 55 dBA 5,500 feet from the mine. Moreover, 55 dBA noise contours along rural roads to the site would move from 55' back from the pavement edge to as far as 100' back.

Although no specific mining proposals have been made in Colusa County, these figures are provided to illustrate the widespread noise impacts that result from such activities. In the case cited above, just 7 miles from the Colusa County line, noise from a single mining operation would affect a three square mile area.

Noise Abatement Program

Noise Standards. Compatibility between new land uses and activities should be ensured in the future by adhering to the standards shown in Table SAFE-3. These standards have been developed in accordance with guidelines published by the California Department of Health Services, Office of Noise Control. They identify the levels of noise which are compatible with activities common in different land use categories. Recommended interior noise levels reflect the levels of sound required to carry out normal activity in each of the specified types of space. These standards should be periodically re-evaluated and revised, if necessary.

Table SAFE-3 identifies three separate levels of standards for noise exposure: normally acceptable, conditionally acceptable, and normally unacceptable.

- o **Normally acceptable** noise levels are those which pose no threat to the specified use. Standard construction techniques would reduce external noise so that the interior noise level would not disrupt activities.
- o **Conditionally acceptable** noise levels are those in which standard building construction would not be adequate to protect the land use. However, standard mitigation measures such as noise barriers, site design to protect sensitive uses, architectural design to protect noise-sensitive activities, or acoustical insulation could easily be employed to achieve acceptable sound levels.

Table SAFE-3: Noise/Land Use Compatibility

LAND USE CATEGORY	RECOMMENDED NOISE LEVELS, Ldn (dBA)							INTERIOR, MAX.
	EXTERIOR RANGE							
	50	55	60	65	70	75	80	
Residential:								
Low Density								45
Medium to High Density								45
Commercial:								
Hotel								50
Office								55
Restaurant, Retail								60
Other								65
Industrial:								
Light Industrial								55
Manufacturing								50
Other								70
Public/Quasi-Public:								
School, Library, Church, Hospital, Theater								45
Other								55
Open Space:								
All Categories								--

KEY:



NORMALLY ACCEPTABLE

Specified land use is acceptable, assuming standard building construction.



CONDITIONALLY ACCEPTABLE

Standard building construction is not adequate for specified land use; however, mitigation measures may be easily employed to reduce noise to acceptable levels. An analysis of the measures by a qualified acoustical professional is required, to be approved by the County.



NORMALLY UNACCEPTABLE

The specified land use should be discouraged unless the County finds the project to be in the public interest and a detailed analysis by a qualified acoustical professional shows that specific measures which are to be included in the project would reduce indoor and outdoor noise to acceptable levels. The analysis and attenuation measures must be approved by the County.

- o **Normally unacceptable** noise levels are those for which simple mitigation measures would not be adequate. The specified land uses would not be appropriate in these areas unless major noise attenuation measures have been designed into the project by a professional who is competent in sound reduction and unless a detailed noise study has been conducted to assure the performance of the design. Construction of the specified use should be strongly discouraged in areas with these levels. For residential uses, construction would be "normally unacceptable" where sound levels exceeded 65 dBA for more than 8 hours a day.

Mitigating Noise Impacts. As illustrated in Table SAFE-4, standard building construction provides some noise reduction from outside to inside. The Federal Highway Administration has developed a manual to further reduce highway noise through a combination of techniques. While these techniques are most useful for new construction, they also may be used to retrofit existing buildings in unacceptably high noise environments.

- o **Site Planning.** The arrangement of buildings on a site can be used to minimize noise impacts. Four primary techniques are used: (1) increasing the distance between the noise source and the receiver; (2) placing non-residential land uses such as parking lots, maintenance facilities, and utility areas between the source and receiver; (3) locating non-residential buildings parallel to the noise source so that they act as a sound barrier (a 2-story building can reduce noise levels on the side of the building away from the noise source by about 13 dBA); and (4) orienting the noise-sensitive areas away from the noise (doubling the distance from a noise source can reduce its intensity by as much as 6 dBA).
- o **Architectural Design.** Noise impacts can be reduced by separating more noise-sensitive rooms from less noise-sensitive rooms, and locating the more noise-sensitive rooms furthest away from the noise source. In residences, bedrooms, living rooms, and dining rooms are most noise-sensitive; kitchens and bathrooms are less so. Solid walls or reduced window areas in the area of the noise source can cut down the amount of noise reaching the receiver.
- o **Acoustical Construction.** Noise can be intercepted as it passes through the walls, floors, ceilings, and doors of a building. Walls provide building occupants with the most protection from exterior noise. The amount of noise protection can be increased through greater wall mass and stiffness, use of cavity partitions, increased airspace, increased stud spacing, use of staggered studs, use of resilient materials to hold the studs and panels together, addition of acoustical blankets, and sealing of cracks and edges.

Windows are one of the acoustically weakest points of a wall. Reduced window size, increased glass thickness, and use of double-glazed windows will decrease the amount of sound entering through windows. Doors are acoustically even weaker than windows. By using solid core doors rather than hollow core doors, vinyl seal around the edges, and gasketed stops, sound penetration can be reduced. Beamed ceilings can be acoustically reinforced by adding a layer of fiberglass or other noise-resistant material.

Overall interior noise levels can be reduced by extensive use of thick, heavy carpeting, drapes, wall hangings, and acoustical ceiling tiles. They

Table SAFE-4: Approximate Noise Reduction Provided by Buildings

<u>Building Type</u>	<u>Noise Reduction due to Building Structure (dBA)</u>
All	10
Light frame, closed windows	20
Masonry, single-glazed windows	25
Masonry, double-glazed windows	35

<u>Portion of Exterior Wall with Open Windows</u>	<u>Noise Reduction of Wall (dBA)</u>
1%	17
2%	14
4%	11
8%	8
16%	5
32%	2
50%	0

Source: Federal Highway Administration (Bolt Beranek and Newman, Inc.), Fundamentals and Abatement of Highway Traffic Noise, June 1973, p. I-35.

cannot reduce the sound entering the building, but they can reduce overall noise levels by reducing sound reverberations. Psychological noise attenuation can be accomplished by masking noise. Techniques include air conditioning, music, the sound of running water, or anything which reduces perceived fluctuations in noise.

- o **Barriers.** A noise barrier is an obstacle placed between a noise source and receiver to interrupt the path of the noise. They can be constructed as earth berms, walls, fences, or dense plantings of shrubs and trees. A berm provides noise attenuation of up to 15 dBA if it is several feet higher than the "line of sight" between the noise source and the receiver. Walls serve the same function with the same results. Landscaping is not as effective acoustically, but is generally the most aesthetically pleasing. Often a combination of these methods proves to be the best solution.

SAFETY POLICIES

HAZARD REDUCTION POLICIES

Flood Protection

- SAFE-1 Flood plains should generally be maintained as open space. In these areas, their use for agriculture, recreation, preservation of vegetation and wildlife habitat, and scenery should be encouraged.
- SAFE-2 Urban development should be discouraged in the 100-year flood plain. Any habitable structure which is permitted shall be built so that the first floor of living area is above the 100-year flood elevation.
- SAFE-3 No critical or high-occupancy structures such as schools, hospitals, police facilities, or fire stations should be built within the 100-year flood plain.
- SAFE-4 The county should support coordinated efforts to maintain levees along the Sacramento River and the 2047 canal.
- SAFE-5 Flood control policies in the Community Services Element should be supported to reduce the hazards associated with flooding.

Geologic Hazard Protection

- SAFE-6 No development shall take place on or immediately adjacent to an existing landslide unless a geotechnical investigation has been performed. This investigation shall define slide activity and slide limits, and contain specific recommendations regarding avoidance, removal, or repair. The County Planning Department should maintain a map showing the general location of existing landslides for reference by development sponsors. The determination of the location of a landslide relative to a proposed development and the preparation of any geotechnical report shall be the responsibility of the development sponsor.

- SAFE-7 A geotechnical investigation should be performed for any development proposal in an area of known subsidence in order to determine whether engineering modifications should be made to the design to eliminate or mitigate the adverse impacts. The county may also require a geotechnical investigation for any development proposed on highly expansive soils.
- SAFE-8 Timber management, grazing and excavation practices in the western portion of the county which will minimize erosion and landslide potential should be supported by the county.

Wildfire Protection

- SAFE-9 Efforts to reduce or eliminate fire hazards should be supported, provided that they do not adversely affect the county's other natural resources.
- SAFE-10 An adequate water source for fire protection purposes shall be ensured prior to development in high or moderate fire hazard zones.
- SAFE-11 Fire protection policies in the Community Services Element should be supported to reduce the hazards associated with wildfire.
- SAFE-12 Reservoirs for firefighting purposes should be maintained by major industrial developments if located in high or moderate fire hazard zones (e.g., mineral extraction operations in the western county).

Injection Wells

- SAFE-13 Further study of the environmental impact of injection wells should be encouraged.

Noise

- SAFE-14 New projects should be conditioned, improved, or denied according to the standards of Table SAFE-3. When necessary, environmental impact reports should be used to gauge the existing and projected noise environments for proposed projects. All projects in areas above the "conditionally acceptable" noise level should provide the county with proof from a professional acoustical consultant that occupants of the project will be protected from excessive noise.
- SAFE-15 New land uses that produce high levels of noise should not be allowed to encroach upon noise-sensitive uses. Concurrently, new noise-sensitive land uses should be discouraged near uses that produce high levels of noise, including transportation routes.
- SAFE-16 When development occurs adjacent to noise generators (such as highways or railroads), noise abatement practices should be used to improve the ambient noise environment. Such abatement practices include noise barriers, site planning, architectural design, and acoustical construction.

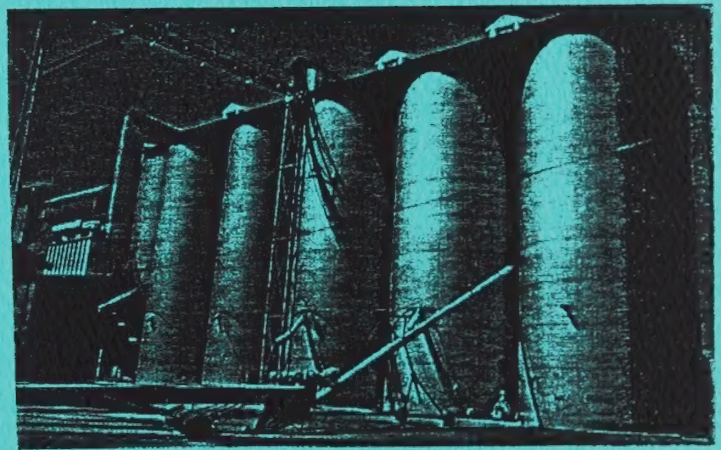
- SAFE-17 The planning and design of local, collector, and arterial streets should consider the noise impacts on adjacent uses and include measures to mitigate significant impacts.
- SAFE-18 Housing, hospitals, schools and other noise-sensitive uses should be designed with careful consideration given to projected noise from surrounding roadways, railroads, and development.
- SAFE-19 Colusa County should support state and federal legislation that reduces the detrimental impacts of noise, as well as state and federal funding programs for the construction of noise barriers or insulation of buildings. A likely result will be noise reductions from sources over which the county has no control or responsibility; for example, legislation may call for noise-attenuating road surfaces on federally supported highways.
- SAFE-20 Colusa County should enforce state and federal laws which prohibit the operation of vehicles equipped with illegal or faulty exhaust systems.
- SAFE-21 New development should be encouraged to follow site planning practices which create quieter environments.
- SAFE-22 Activities which would unnecessarily disturb the peace and quiet of neighborhoods or cause unusual discomfort or annoyance should be prohibited. Regulation of non-vehicular noise (construction, air compressors, manufacturing, loud music) should be encouraged to avoid disturbing adjacent uses.

SAFETY IMPLEMENTATION POLICIES

- SAFE-23 The County Planning Department and the Office of Emergency Services should maintain hazard maps to aid in the review of development proposals and in the development of emergency response plans. Such maps shall illustrate potential flooding, dam inundation, landslides, subsidence, and wildfire threats.
- SAFE-24 The county should work with flood control districts, the Department of Water Resources, the State Office of Emergency Services, and the Federal Emergency Management Agency to develop coordinated responses to flood emergencies. The county should coordinate with local fire protection districts, the California Division of Forestry, and the U.S. Forest Service for protection from wildfires.
- SAFE-25 Known hazard information should be reported as part of every General Plan amendment, zoning change, or use permit approval.
- SAFE-26 Development proposals in potential hazard areas should be referred to appropriate agencies for review and recommendations.
- SAFE-27 The county should encourage the State Department of Mines and Geology and the State Department of Water Resources to further investigate the cause of subsidence in eastern Colusa County in order to develop a plan to prevent further subsidence and correct existing problems, if possible.

- SAFE-28 The county should support State investigations of earthquake faults and other seismic hazards in the Sacramento Valley and Coast Range. Earthquake preparedness should remain an active part of the county's Emergency Response Program.
- SAFE-29 Emergency shelters and first-aid centers should be designated in the communities of Maxwell, Williams, and Arbuckle in public facilities outside of the 100-year flood plain. Primary emergency shelters and first-aid centers should be established at the high schools in these communities. Williams High School should be opened first, and should serve as a coordinating center. If necessary, secondary emergency shelters could be opened at elementary schools or other public facilities in those communities.
- SAFE-30 The county should develop regulations for injection wells to ensure that saline water does not leak into groundwater and toxic substances are not injected into the wells. Such measures could be attached to permits to operate the wells, and may include the following:
- o Allow the county to randomly check substances prior to injection, and permit up to five tests per year to determine the composition of the substances.
 - o Require operators to maintain a log of injections to be made available to county inspectors.
 - o Require operators to secure well facilities and storage tanks against unauthorized access.
 - o Require operators to pay for tests of existing wells within one-quarter mile of an injection site, if requested by a county inspector, to determine the extent of possible contamination.
- SAFE-31 Colusa County should conduct noise sampling and prepare noise contour maps for unincorporated areas along Highways 20 and Interstate 5, for the Colusa County Airport, and for major point sources of noise such as rice dryers and concrete batch plants. These maps should be kept on file in the County Planning, Public Works, and Environmental Health Departments and should be referenced in the evaluation of all future development. The cities of Colusa and Williams should be encouraged to take similar action.
- SAFE-32 As a practical matter, projections of future noise levels should only be required in commercial, industrial, and mineral extraction developments, in large residential developments that will generate substantial traffic volumes, and in developments close to a known source of noise exceeding noise control standards.
- SAFE-37 Colusa County shall adopt a county noise ordinance which regulates noise from residential and non-residential sources and defines limits of acceptable noise, time of day and duration characteristics, and the location of the noise source relative to sensitive uses and activities.

SAFE-38 The Airport Advisory Committee should function as the county Airport Land Use Commission (ALUC). This Committee should, among other things, determine noise compatibility guidelines for land uses in the approach and take-off zones around Colusa County Airport. The Committee should prepare an airport master plan which includes existing and projected noise contours greater than 60 dBA in 5 dBA intervals.



Final Environmental Impact Report

FINAL ENVIRONMENTAL IMPACT REPORT

INTRODUCTION

According to the California Environmental Quality Act (CEQA), a proposed general plan constitutes a project which may "significantly" affect "the environment."² By law, the local jurisdiction is therefore required to prepare an Environmental Impact Report (EIR) which addresses the topics outlined in the State CEQA Guidelines listed below:

- o Description of the project (Section 15124).
- o Description of the environmental setting (Section 15125).
- o The significant environmental effects of the proposed project (Section 15126(a)).
- o Any significant environmental effects which cannot be avoided if the proposal is implemented (Section 15126(b)).
- o Mitigation measures proposed to minimize the significant effects (Section 15126(c)).
- o Alternatives to the proposed action (Section 15126(d)).
- o The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity (Section 15126(e)).
- o Any significant environmental changes which would be involved in the proposed action should it be implemented (Section 15126(f)).
- o The growth inducing impact of the proposed action (Section 15126(g)).
- o Effects found not to be significant (Section 15128).
- o A list of organizations and persons consulted (Section 15129).
- o Cumulative impacts (Section 15130).

¹Determination of "significant effect" is left to the local public entity preparing an EIR but should be based to the extent possible, on scientific and factual data. An ironclad definition is not possible because significance will vary considerably with changes in environmental setting (State CEQA Guidelines Section 15064).

²"Environment means the physical conditions which exist within the area which will be affected by a proposed project including air, land, water, minerals, flora, fauna, ambient noise, (and) objects of historic or aesthetic significance" (State CEQA Guidelines Section 15360).

Despite the fact that a general plan and an EIR are legally distinct documents, their concerns and methods of preparation overlap considerably. For this reason, Section 15166 of the State CEQA Guidelines allows a jurisdiction to integrate the EIR with the local general plan provided that the plan also contains a separate section which identifies where each EIR requirement is addressed.

The Colusa County General Plan is a broad statement of the county's goals for the foreseeable future. Accordingly, the General Plan EIR "need not be as detailed as an EIR on the specific construction projects that might follow" (State CEQA Guidelines Section 15146(b)), and should focus on the secondary impacts of the plan (those which occur later in time or are farther removed in distance but are still reasonably foreseeable).

Because a majority of the EIR requirements have already been met and incorporated into the General Plan itself, this section of the Plan functions primarily as a reference document. It identifies the General Plan chapters and/or sections where EIR requirements are addressed and summarizes significant impacts and mitigation measures.

The Draft EIR was released on March 4, 1988 and was circulated for public review and comment. Responses to comments were prepared and were circulated in July, 1988. This chapter incorporates these responses as well as editorial changes which make the EIR consistent with the revised general plan.

OVERALL SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS

The Colusa County General Plan is designed to achieve a reasonable balance between the county's potential agricultural and economic role in the Sacramento Valley region and its present small town atmosphere. In striking this balance, the General Plan permits further development of the county's urban communities, and encourages commercial revitalization of the downtown areas. By the year 2010, population in the county is expected to grow to about 23,500. Some of the new residents will work inside the county, while others may work in surrounding counties, which have been growing at faster rates than Colusa.

The Plan allows growth in existing communities, where it can be most easily accommodated. In order to prevent excessive and rapid growth, the plan contains measures which restrict development outside of communities and which generally permit development outside of designated growth areas only after development possibilities within these areas have been exhausted. The plan provides methods of accommodating growth appropriately; however, some impacts are still possible:

- o Improvements to public services will be necessary; if growth occurs more rapidly than expected, public services such as water availability and wastewater treatment could constrain additional growth.
- o Expansion of Arbuckle, Colusa, Maxwell, and Williams could impact existing agricultural operations that are not planned for development and affect the feasibility of large-scale farming on these properties.

- o A repeat of drought conditions comparable to those experienced in 1976-77 could affect the availability of groundwater and create water supply problems given the larger population that will reside in the County in the future.
- o Additional urban growth, even adjacent to existing communities, means loss of valuable agricultural land and an increase in impervious surfaces, which decreases groundwater recharge and increases flood hazards.
- o A change in community character is possible, since the county will be growing more rapidly than it has in the past.
- o Increased traffic will result from additional growth both within and outside of the county; traffic on Highway 20 could worsen in the City of Colusa if the proposed bypass is not constructed by Caltrans in a timely manner.
- o Visual and water quality impacts could occur in the western county if mineral extraction occurs.

DESCRIPTION OF THE PROJECT

State Requirements

CEQA requires this section of the EIR to contain:

- o the precise location and boundaries of the project;
- o a statement of the objectives sought by the project;
- o a general description of the project's characteristics; and
- o a statement describing the intended uses of the EIR.

Each of these concerns is addressed below.

The location of the project is Colusa County, shown in Figure INTRO-1 in the first chapter of this report. A description of the objective of the General Plan--to guide long-range physical development in Colusa County--is also outlined in the first chapter. A secondary objective of the plan is to establish a basis for future transportation, public service, and housing policies, and to provide a sound foundation for regulating the use of land through zoning and subdivision controls.

The Colusa County General Plan identifies locations for future growth and indicates appropriate land uses for each of the locations. Policies are identified to allow compact community growth while maintaining the county's rural lifestyle and protecting its agricultural and other natural resources. The land use plan itself makes 8,000 acres of land in the county available for "urban" development; this is approximately three times larger than the area currently developed in urban uses and is more than adequate to accommodate urban development needs through the year 2010.

The primary use of the Draft EIR was to inform the public and elected officials of the potential significant environmental effects of the project. These effects needed to be understood and considered by the Colusa County Board of Supervisors in its deliberations on the policies, guidelines, and proposals contained in the Plan. The

Draft EIR provided information that allowed the county to recognize the possible side effects of the Plan before taking action to adopt it. The Final EIR incorporates responses to comments made on the Draft document.

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

State Requirements

CEQA requires these three sections of the EIR to include:

- o A description of the environment in the vicinity of the project, including an understanding of the regional setting and applicable general plans and regional plans.
- o Significant effects of the proposed project.
- o Measures which could minimize significant adverse impacts.

Population and Housing

Conditions and Impacts. This impact area concerns the growth trends and land use activities that affect population density, and the quantity, type, distribution, and availability of housing in the county. These subjects are discussed in the Land Use and Housing Elements and in the Community Plan Element.

One-third of the county's current population of 14,800 people is located in the city of Colusa. One-eighth of the population resides in Williams. A significant portion of the county's population live in unincorporated rural areas. The county has historically been one of the slowest growing areas in the state of California. In the 1980s, however, the county has been growing at a rate more typical of rural California counties. Although the county historically has not grown as quickly as neighboring counties, there are many indications that a more rapid growth rate, consistent with the growth rate of the 1980s, can be anticipated.

The General Plan's population projections are based on the assumption that population will increase during the next 22 years at about the same rate that it did between 1980 and 1987. A total of 23,500 people are expected to reside in the county by 2010. While Williams, Maxwell and Arbuckle will experience the most significant growth, Colusa is projected to remain the largest city. The projected growth rate (58% over 23 years) is much faster than the rate of the 1970s, when the county had a net increase of only 36 people per year.

At the time of the 1980 Census, 309 families in the county, or 8.8 percent, were living below the poverty level (an annual income of \$12,831). Female-headed households and the elderly made up a significant portion of those living below the poverty level. Household size has been increasing countywide, suggesting a strong demand for large, affordable single family homes.

The projected housing need for the period 1987 to 1993 was estimated at 409 units using state data, and at 620 units using local data. Half of these units are needed for

very low and low income households. Approximately one-third will be occupied by those with above moderate incomes. Beyond the year 1993, population growth will continue to generate significant housing demand. 1987-2010 housing demand for the county is projected to be 3,385 units, including 2,700 "urban" units and nearly 700 "rural" units.

The land use plan designates 2,900 acres for "urban residential" development county-wide. Of this, the land which is currently undeveloped could potentially accommodate more than 4,000 new housing units, or about 50 percent more than the "urban" housing demand projected between 1987 and 2010. An additional 3,000 acres of vacant or partially improved land is designated for rural residential development, permitting as many as 3,000 new rural dwellings (including vacant lots within existing rural subdivisions). This also surpasses the projected need for the planning period. Nevertheless, adverse housing impacts can be expected if the housing is not available when needed, if the new housing is unaffordable, and if the units are not suitable for those who are seeking housing.

An additional concern would be the change in community character or shift in the composition of the population which could be brought about by the additional growth. This poses some threat to the county's rural lifestyle; however, the overall size of the county will still be small. Relative to the larger population centers of California, Colusa County will remain overwhelmingly rural and agrarian. It should be noted that the demand for land is not totally within the county's control. The General Plan attempts to accommodate additional growth in a manner that will be beneficial to the county and its residents as it also strives to minimize the inevitable "spillover" impacts generated by development in adjoining metropolitan regions such as Yuba City and Sacramento.

Mitigation Measures. The General Plan contains policies aimed at providing safe, decent, and affordable housing in Colusa County. The policies (see the Housing Element and Community Plans) address the following issues:

- o affordable housing for special population groups, such as the elderly, lower- and moderate-income households, the disabled, farm laborers and female-headed families with children;
- o housing preservation;
- o housing costs;
- o housing supply; and
- o energy conservation.

These policies direct Colusa County's efforts to mitigate adverse housing impacts. Measures that address affordability include policies to participate in state and federal housing programs, permit higher building densities and second units where appropriate, and to encourage alternatives such as non-profit housing organizations. The Housing Element contains policies to encourage rehabilitation of existing homes and to minimize government constraints to development.

Economy and Employment

Conditions and Impacts. This impact area concerns the economic growth trends and land use activities that affect employment density, and the quantity, type, and distribution of jobs. These subjects are discussed in the Land Use and Housing Elements.

Approximately 6,025 people are employed in Colusa County businesses. Agriculture is the staple of the county's economy, directly accounting for one-third of all jobs, and providing the foundation for many support services and industries in other sectors of the economy. Many of the county's manufacturing, retail, and wholesale trade jobs exist to serve agriculture. Agriculture also provides seasonal employment to about 1,600 persons during the late summer and early fall. While job growth was strong during the 1970s, it has fallen behind population growth in the 1980s. Unemployment has risen. During the 1980s, agricultural growth has leveled off and government employment has declined.

The General Plan provides for the protection of the county's agricultural base while allowing some employment diversification and encouraging new year-round jobs. The future growth in jobs will probably be accompanied by a shift in employment composition. The number of persons employed directly in farming will continue to drop, and manufacturing jobs are likely to increase. Since most of these jobs will be in agricultural processing and distribution, the county's economy will still be driven by agriculture. Even the new retail and service jobs created to serve the larger population will be indirectly dependent on agriculture.

The Land Use Element designates several areas between I-5 and Old Highway 99 for future industrial use. It is expected that many of these jobs would complement the existing agricultural economy. Retail employment may also increase, as the Land Use Element designates land in downtown areas for commercial development, and freeway interchanges for "highway commercial" uses.

The overall impact will probably be to increase employment opportunities in Colusa County. However, inviting new growth could have a negative impact on the existing agricultural base if the county's agricultural resources and operations are not protected according to the objectives of the plan. The plan includes policies which restrict growth primarily to areas which adjoin existing communities and to areas where farming is no longer feasible due to encroachment by freeways, power lines, or urban uses.

Mitigation Measures. The policies in the Land Use Element are intended to guide new economic growth in the county. The policies seek to promote development and redevelopment of the downtown retail establishments; to direct highway commercial activities toward the freeway interchanges; and to provide a supply of industrial land for manufacturing and agricultural support. The policies recommend that the County Chamber of Commerce, Farm Bureau, Board of Supervisors and Economic Development Commission work together to determine how to attract agriculturally-compatible business enterprises to the county.

Potentially negative impacts of new industrial uses are mitigated by land use policies which require that industrial areas are not developed until they can be served by sewer and water services, meet fire protection service standards, have access to a major transportation route, and have groundwater available. Policies also ensure that increased public service costs resulting from industrial development be paid for by that development.

By setting forth a logical development pattern which protects and diversifies the County's most important industry--agriculture--the General Plan will likely have a positive overall economic effect on the county. Potential negative economic impacts would be related to the fact that development is directed towards geographical growth areas. These effects are not likely to hinder new economic development in the County, since a more than adequate supply of land is available for new growth. This stable, well-ordered land use plan will do more to protect the County's agricultural economy and attract new, high quality development projects which enhance agriculture than a plan that allows haphazard growth and development. Furthermore, some negative economic impacts will be offset by a tremendous savings in infrastructure and public service costs. The General Plan was developed in part to preserve and enhance the County's economy.

Land Use

Conditions and Impacts. This impact area relates to the changes in the land use patterns and densities caused by the Plan, and the consistency of those changes with other applicable policy documents. This issue is largely covered in the Land Use Element and Community Plans.

The fundamental idea behind the land use plan is that Colusa County's growth should be concentrated in existing communities and not left to "leapfrog" into viable agricultural areas. The plan promotes the development of the vacant gaps within each town before allowing growth to occur in agricultural areas. Figure LU-2 in the plan illustrates proposed land uses.

The General Plan envisions four population centers in the county, organized along the north-south axis of Interstate 5 and the east-west axis of Highway 20. Colusa will remain the largest city and center of county government and services. Williams will remain the county's second largest city, but the gap between its population and Colusa's will narrow. Arbuckle and Maxwell will also grow considerably. Highway-oriented commercial areas are designated at the freeway interchanges in Arbuckle, Williams, and Maxwell. Areas for new industry are planned in all three communities between I-5 and Old Highway 99.

Potential impacts are related to the overall amount of growth that could take place, and where this growth could occur. Of primary consideration is the protection of agricultural lands from unnecessary conversion to non-agricultural uses, and prevention of sprawl through the maintenance of physically separate and distinct communities. The land use designations and policies in the plan do provide for protection of agriculture and prevention of sprawl. However, the plan must be carefully implemented in order to assure avoidance of adverse effects. In addition, the necessary services (water, roads, schools, parks, etc.) must be secured for the planned growth; these subjects are covered under public services.

The land use plan designates 419,000 acres for general agriculture, 183,000 acres for upland agriculture or rangeland, and 114,000 acres for resource conservation. About 13,300 acres are designated for "urban", "rural residential", and "non-urban industrial" uses. This includes land that is already developed as well as vacant land. The amount of land designated for urban uses is greater than that projected for future growth, to provide the real estate market some flexibility. This excess land, while necessary to allow growth to occur, also could induce excess growth.

If all vacant land designated for future growth was actually developed, Colusa County would experience a loss of about 9,000 acres of farmland. This represents a combination of productive, marginally productive, and unproductive farmlands, 98 percent of which is in the immediate vicinity of existing communities or in the I-5 corridor. Some of this farmland is simply infeasible to farm due to man-made constraints; such is the case with several thousand acres sandwiched between Old Highway 99 and Interstate 5. It is very unlikely that this land will be entirely developed by the year 2010. Moreover as land in the I-5 corridor is converted to non-farm uses, dryland in the west valley will be irrigated with water from the Tehama-Colusa Canal. In fact, there is a high probability that cultivated acreage will actually increase and that the gain in acreage irrigated by the canal will exceed the acreage converted to urban use.

Very little of Colusa County is currently used for urban purposes. The communities occupy approximately 2,500 acres, and rural subdivisions (primarily two developments in the foothills) occupy 1,200 acres. The rest of the county is productive and unproductive farmland and rangeland, National Wildlife Refuges, and National Forest land. Table LU-1 from the Land Use Element summarizes existing land uses.

Cropland occupies 358,000 acres, or about one-half of the county's total land area. Ranches occupy about 200,000 acres, just over one-quarter of the county's land area. Agricultural activities are a crucial part of the County's economy. Crop production and values of the leading crops are documented in Tables LU-2 and LU-4 from the General Plan.

While most prime soils are found on the Central Valley floor, the Williamson Act has been applied almost exclusively in the foothill and mountain areas of the western county. In the past, the agricultural lands on the valley floor have not been threatened by development pressures, and there has been no need to extend Williamson Act contracts to these areas. The foothills, however, have experienced some development pressure. Of the 200,546 acres which are now under contract, 10,345 acres are considered prime and 190,201 acres are non-prime agricultural land or open space lands. The General Plan proposals should not affect existing Williamson Act contracts. No cancellations of existing contracts will be required.

Much of the county is to remain unchanged. In fact, the land uses proposed in the General Plan are very similar to the previous General Plan. Most land designated for agricultural use in the previous plan is also designated for agricultural use in this plan. Table LU-6 of the Land Use Element provides a summary of proposed land uses. The proposed plan designates more land for industrial use, primarily along I-5.

New growth will occur primarily in the four communities and to a lesser degree along the I-5 corridor. The western county will remain essentially undeveloped. Total developable acreage in the plan still represents less than 1.4 percent of the county's total land area. Additional conflicts could arise, however, if resource extraction activities (such as mining operations) become prevalent in the western county. Such uses could create conflicts with recreational, agricultural, or scenic resources.

The "Community Planning Areas" designated in the General Plan will include existing communities and transitional lands, some of which are currently productive farmland. Existing undeveloped rangeland is designated "Agriculture-Upland" (range), "Agriculture-General" (if suitable for cropland), and "Upland-Transition".

The "Resource Conservation" category includes all public lands (National Wildlife Refuges, National Forest Lands, Bureau of Land Management, and Bureau of Reclamation lands); it includes some land which is shown on the Existing Land Use Map as Undeveloped Rangeland. Most of what is shown on the Existing Land Use Map as Orchards/Vineyards, Cropland and Undeveloped Bottomland has been designated "Agriculture-General" in the land use plan. However, some agricultural lands in the I-5 Corridor and near communities has been included in the "Community Plan Areas" and in the "Non-Urban Industrial" designation.

Mitigation Measures. Mitigation is addressed by policies and action programs contained in the Land Use Element and Community Plans. These policies identify where growth should occur, uses appropriate to geographic areas, and how the county and other public officials can ensure that growth occurs in an orderly fashion. The land use policies are organized in the following categories:

- o General Development,
- o Conservation,
- o Agriculture,
- o Residential,
- o Commercial,
- o Industrial, and
- o Implementation.

The Community Plan Element identifies policies which are specific to each community. In each of these, the limit of growth is identified (the current utility district sphere of influence or, in some instances, a specifically recommended expansion of the sphere of influence). Development of vacant land within the communities is encouraged, consistent with existing scales and styles of architecture, and downtown retail and commercial development is promoted in order to ensure the economic viability of the downtown areas. New park and recreation facilities are recommended to accompany new development.

Agricultural policies discourage scattered residential subdivisions and promote activities adjacent to agricultural areas which will not interfere with agricultural activities. Policies in the Conservation Element recommend a study of the economic feasibility of extending eligibility of the Williamson Act to the entire county. Agriculture transition areas are established within the community planning areas to provide room for future growth as conditions change within each community.

Development priorities are established to provide flexibility while preventing scattered or haphazard development. The policies indicate the priority of encouraging commercial development in downtown areas before it is allowed on the fringes of communities; within communities before developing agriculture-transition areas; and development of vacant areas designated for urban uses before consideration is given to expansion of existing communities. The plan further indicates a need for physical separation of Arbuckle, Colusa, Maxwell, and Williams, particularly after growth begins to occur. Areas of agricultural open space have been designated between the communities slated for the greatest amount of growth.

Incompatible uses will be separated to the greatest degree possible: new industrial uses and new residential uses are to be separated; new highway commercial areas are not planned adjacent to residential areas, and are to be screened from existing residential areas where possible. In order to assure that the land use plan is carried out as proposed, the plan recommends zoning ordinance revisions to acknowledge the

proposed land uses. Accompanying the zoning revisions, development standards are to be prepared to ensure quality development and design.

Circulation

Conditions and Impacts. This impact area addresses the movement of people and goods through Colusa County, as well as projected increases in travel demand and the ability of the local and regional transportation system to accommodate that increase. The California Department of Transportation (Caltrans) published a Systems Management Plan (SMP) for District 3, which includes Colusa County, to set priorities for future state highway improvements. Because of previous low growth assumptions for the county, the Caltrans SMP proposes very few improvements within the county. In fact, of four alternative funding plans developed in the SMP, only one assumes major improvements in Colusa County: this improvement would be a 2-lane bypass around the city of Colusa, from Highway 20 at O'Hair Road to Highway 20/45 just south of the Colusa Airport, to alleviate projected high volumes of truck traffic in town on Highway 20. This project has been given a low priority by Caltrans.

Traffic volumes on North Highway 45 may also warrant construction of a new road on the west side of Colusa, extending about 3.5 miles north from the proposed Highway 20 bypass near Wilson Road and terminating near Harbison Road. The Highway 20/45 bypass will primarily serve regional traffic. Any work that Caltrans proposes will be accompanied by a series of public meetings and will meet recognized safety standards.

The circulation system is closely related to the land use pattern. Increased development proposed in the General Plan as well as increased regional traffic will result in increased traffic on Colusa County roads and increased maintenance needs. The greatest traffic increases are expected on major roadways such as the I-5 freeway: Caltrans projected that traffic volumes on Interstate 5 and portions of Highway 20 will increase by over 70% by 2010. The added traffic is not expected to overburden the capacity of these roads, however. They currently operate at Level-of-Service A (free flow conditions).¹ With the increased traffic, they may drop to LOS B (slightly restricted flow), which meets Caltrans' criteria for highway operation. It is important to note that most of the increase will come from traffic with origins and destinations outside of Colusa County and will be a result of a larger state population rather than a larger county population. According to Caltrans, traffic on local roads will increase by an average of about 40%. However, the increase will not be evenly distributed on county roads; those closest to the county's four largest cities and to its recreation areas will see much greater percentage increases. The increased traffic may be most significant in communities such as Colusa and Williams, where both local and regional traffic will burden the cities' road systems. In fact, Highway 20 in Colusa may reach LOS E (forced flow) by 2005. Although this projection is the motivation behind the Highway 20 bypass proposal, the project is not assured; whether such an improvement is built will depend on the actions of Caltrans.

¹Level of Service is fully defined in the Circulation Element of the Plan.

Colusa County's road system also faces serious maintenance problems due to severely constrained financial resources. This is more than just a local concern; the county's road system provides mobility to the regional, state and national agricultural markets. Vehicles originating outside the county, which are a significant factor in road maintenance needs, contribute nothing to maintenance costs. Because the General Plan focuses growth in a limited number of areas, maintenance needs on roads in these areas are likely to increase. With an increase in tourism and traffic to the National Forest, maintenance needs on the Stonyford-Maxwell Road are also likely to increase.

Circulation improvements can also have growth-inducing effects; however, major transportation improvements, other than the bypass, are not proposed. Minor improvement and maintenance projects should not induce growth outside of cities. Land use along the bypass should be closely regulated so that it may function as designed--as a free-flowing roadway with minimal number of ingress and egress points.

Most travel demands in the county are accommodated by personal automobiles. A Mini-Transit program provides dial-a-ride service to transportation-disadvantaged people between Colusa, Williams, Arbuckle, Maxwell, Grimes, College City, Sites, and Stonyford-Lodoga. This program is supplemented by a partially-subsidized taxi service. Regional bus service is provided between Colusa and other counties along Interstate 5, with stops available in Williams, Colusa and Maxwell. Transit demand may grow at a greater rate than population growth.

Freight rail service is provided by Southern Pacific. The Colusa County Airport accommodates private planes, primarily for agricultural purposes. The Sacramento River is navigable as far north as Colusa; the river is dredged to provide passage for commercial barges. The Princeton Ferry provides a historic and culturally valuable river crossing to Afton in Glenn County. The Regional Transportation Plan proposed a bridge to replace the ferry. The Central Valley bicycle trail, part of a statewide network for inter-regional bicycle travel, runs parallel to Interstate 5. Biking, hiking, and off-road vehicle routes are addressed primarily in the Open Space Element.

The major pipe and transmission lines in the county are a gas line which parallels Interstate 5, and north-south oriented power lines. A new overhead power transmission line has been proposed to traverse Colusa County along the alignment of an existing power line near Interstate 5. A second power line, the Geothermal Public Power Line, has been proposed along an alignment originating at geothermal energy development projects in Lake and Sonoma Counties and extending to Williams. Although the project is not a certainty, it would have potentially significant environmental impacts within Colusa County.

Mitigation Measures. The Plan contains recommendations for local and regional transportation systems to accommodate the projected development potential. These can be found primarily in the Circulation Element, with additional policies in the Land Use and Community Plan Elements. The Land Use Element provides for growth which would facilitate transit use and development of an efficient circulation system by encouraging compact growth within existing communities. The primary source of increased traffic on Colusa County's highways will be from outside the County rather than from within the County. An increasingly large share of cars using County roads will be traveling between urban centers like Yuba City, Sacramento, Clear Lake, Redding, and Chico. The County is limited in its ability to

mitigate the impacts of increased traffic when this traffic is originating in an area outside the local jurisdiction. However, policies in the plan do stress the importance of interagency coordination in highway planning. Policies also support a close working relationship with agencies such as Caltrans to ensure that regional improvements such as the Colusa bypass are actually built.

Policies in the Circulation Element address the appropriate levels of service for roadways and seeks timing of roadway improvements which neither constrain nor induce growth by suggesting that LOS C conditions exist before improvements be made. The Plan also identifies state, federal, and private sources of funding. Improvements needed to serve private development will be the responsibility of the developer. The Plan seeks use of state, federal, and private funds for transit services for those with unmet transportation needs. Continuation of freight rail service is supported, and the Plan supports restoration of passenger rail service along the West Valley Amtrak line.

Policies in the plan state that new development which generates the need for new roadways or improvements to existing roadways must pay for the need it creates and provide for right-of way dedication as needed for improvements which have been proposed by the county.

Formation of an Airport Land Use Commission is proposed in the General Plan to guide land use decisions and protect public safety, in accordance with state law. The Plan makes recommendations for Scenic Highway Designations, to provide recreation and to protect visual quality. To reduce demands on the roadway system and accommodate people without cars (including children), new development at urban densities should provide sidewalks and sufficient room for bicycles.

While the General Plan provides thoroughfare studies for the larger communities, it also suggests a need for further study to assess the impact of growth on local and regional roads. Environmental impact reports associated with specific developments must provide further information on traffic impacts on a site-specific basis: such study would be absolutely essential for projects which would house a large number of workers or for a project such as mineral extraction in the western county, which is now fairly remote.

The County is currently preparing a Transmission Line Element to mitigate prospective impacts of the Geothermal Public Power Line and other future energy transmission projects. The Element will incorporate policies and guidelines for siting future transmission lines in the county.

Public Facilities and Services

Conditions and Impacts. This impact area concerns the future demand imposed on the county's infrastructure and services by future development. The capacities of existing infrastructure systems and service capabilities, as well as future demands, are discussed in the Community Services Element.

Water Supply. Water is supplied to Colusa County from two sources: groundwater and surface water. All domestic systems in the county are served with groundwater, while most agricultural irrigation systems are supplied with surface water from the Tehama-Colusa or Glenn-Colusa Canals, the Colusa Drain, or the Sacramento River. The Sacramento River groundwater basin is the water source for community

water-delivery systems in Arbuckle, Colusa, Grimes, Maxwell, Princeton and Williams. None of the Sacramento River basin groundwater delivery systems currently operates at capacity; however, there are some aspects of the systems which will eventually require upgrading.

In Arbuckle, additional wells will be required by the year 2010 if the town grows as expected. Some of the unincorporated areas around Colusa are served by individual wells, and should be incorporated into the city system. At least one additional well is currently needed to serve outlying areas, and older segments of the existing distribution system will need to be upgraded. In Grimes, capacity appears to be adequate to support the amount of growth shown in the year 2010 Community Plan. Based on growth projections for Maxwell, capacity will be reached around the year 2000. In Princeton, neither the water supply nor distribution systems pose a constraint to development.

Water for Stonyford and Century Ranch is limited; accordingly, very limited development is proposed for the area and any land division must meet certain well water pumping standards. However, Century Ranch may have great difficulty meeting its water needs if the roughly 900 existing vacant lots in the subdivision are actually developed. In the city of Williams, distribution lines on the south side of the city are not large enough, and a program to replace deteriorating or undersized pipes is needed before growth shown in the Williams Community Plan can take place. To support the level of development ultimately envisioned in Williams, new wells, pumps, and storage tanks will be required for the south side of the city.

The county uses a total of 968,000 acre-feet of water per year for irrigation purposes, of which 815,000 acre-feet is provided by irrigation canals. The balance is extracted from groundwater. There are numerous agricultural water suppliers in the county, which are not well coordinated with each other.

Although no significant problems with domestic water supply or delivery are anticipated, water in California must be considered a limited resource. An increased population implies an increased use of scarce water; however, some of the new growth will occur in what are now agricultural areas. Since agriculture is generally the largest user of water, urban growth could actually free up some of the existing supply. Agricultural water users in particular need to be encouraged to conserve water and take precautions which prevent water quality degradation.

Wastewater Disposal. The primary methods of wastewater disposal in Colusa County are on-site disposal (i.e., septic systems) and centralized disposal systems. The areas served by on-site systems are generally rural or agricultural; septic systems which serve commercial and industrial land uses or higher density residential uses may present water quality problems. Grimes, Century Ranch, College City and Stonyford will continue to be adequately served by septic systems, since very little development is planned in those communities. Community collection and treatment facilities serve Arbuckle, Colusa, Maxwell, Princeton and Williams.

About 200 new residential connections could be added to the system in Arbuckle before improvements will be needed. This should occur by the year 2000; adverse impacts could occur if those connections were not put in place in a timely manner. Improvements would also be needed if new industries generate wastewater for the plant. Stormwater infiltration is currently a problem during heavy rains.

Effluent from the city of Colusa's treatment plant exceeds state water quality standards, which currently limits the amount that the plant can discharge. Plant capacity will not be a limiting factor for the next two decades, if the effluent problem is corrected and if major industrial dischargers do not locate within the service area. A 1984 study identified several problems which will continue to pose constraints to development on the city's south and east sides.

In Maxwell, a pipe replacement program has been correcting an infiltration problem and improving plant efficiency. The Maxwell treatment plant capacity is more than double its current usage, and should be sufficient to meet the town's needs through the year 2010. The situation could change if a number of large industrial users moved to town and required hook-ups to the municipal plant. Furthermore, the designation of over 1,000 acres southwest of town for rural residential use could result in a large number of septic tanks and subsequent groundwater quality problems.

Expansion of the collection and treatment systems in Princeton should not be required to meet growth demands during the next two decades.

The treatment plant in Williams currently operates at about half its capacity. About 300 new residential connections could be supported; however, the plant will ultimately need to be upgraded to increase its capacity and improve the quality of treated effluent, which does not meet minimum standards. Infiltration is a problem during storm events. Extension of the collection system will be required if development occurs to the south of the city. The existing plant has a history of odor problems, as it is upwind of the city.

Flooding and Drainage. The Colusa Trough, a low-lying area parallel to and several miles west of the Sacramento River, floods seasonally due to the increase in irrigated acreage west of it. A bill in the California Legislature recently formed a Colusa Basin Drainage District, encompassing parts of Glenn, Colusa, and Yolo Counties. The District is charged with developing a comprehensive plan for flood control in the Colusa Basin. Additionally, the federal government has authorized funds for repair of the Colusa Trough levees in Colusa and Yolo Counties. The Colusa County Flood Control and Water Conservation District was created in 1983 to develop a comprehensive approach to water management in the county. Roadside drainage ditches and culverts are used in most communities in the county. Colusa is the only town in the county with an extensive storm drainage system; the need for improvements has been identified. A large portion of Williams lies in the 100-year flood plain, and development should not be permitted in the flood plain areas unless flood protection measures are taken. The levees along the Sacramento River are maintained by four local levee and reclamation districts as well as the Department of Water Resources. Increased urban development in the county will reduce permeable ground area and require additional storm drainage improvements.

Solid Waste. Four types of waste are generated in Colusa County: residential wastes (about 50 percent of the total), commercial wastes (30 percent), industrial wastes (10 percent) and natural wastes such as agricultural refuse. Industrial waste comes from a single source, and is similar to commercial wastes in composition. There are two landfills in the county, one south of Stonyford and another on Evans Road, and a transfer station south of Maxwell. The Evans Road landfill was recently expanded to accommodate the county's growth beyond the year 2010. It could reach capacity sooner than that date if the county accepts waste from other counties or experiences a large surge of industrial growth. The county's Solid Waste Management Plan was completed in 1975 and needs to be updated, especially in consideration of several state requirements regarding solid and hazardous wastes.

The county is faced with several state mandates for studying the impact of its landfills on the environment. One of the first steps, recently completed, was for the county to prepare a hazardous waste management study as required by the Tanner Bill, to determine methods of disposing hazardous wastes generated in the county.

Police and Fire Protection. The unincorporated areas of Colusa County receive general public safety and law enforcement services from the County Sheriff Department. Personnel resources in the Department are at their limit. New development would increase the demand for safety services. Based on population projections for the county and the current ratio of officers to residents, about 47 sworn officers would be required by the year 2010. The county jail appears to have adequate capacity to handle projected growth. Municipal police departments serve Colusa and Williams. Other law enforcement agencies operate on the Mendocino National Forest and the National Wildlife Refuges. Although the county's crime rate is low, the demand for police services will rise as the county grows, and the types of crimes and accidents may change. The Sheriff Department is already short-handed by two deputy officers and two correctional officers.

Fire protection services are provided by 8 rural districts, 2 city fire departments, the California Department of Forestry, and the U.S. Forest Service. Mutual aid agreements exist between the different jurisdictions. The districts are primarily staffed by volunteer fire fighters. The fire hazards in the county are greatest during the dry summer season, and in the foothill and mountain areas. Insurance Service Office ratings are poor in some districts due to lack of adequate water supply or equipment. Increased growth will increase service demands on the fire districts and city fire departments. New or expanded fire stations may be needed in the larger communities, depending on the pace of industrial development. New personnel will also be needed. Ambulance and emergency medical services are provided by a private company. A problem with response in rural areas is the lack of a numbered address system, which sometimes hinders timely response.

Schools. There are six school districts within Colusa County, three of which encompass portions of adjoining counties. The districts under the jurisdiction of the Colusa County Superintendent's Office have experienced growth of about 6 to 9 percent during the last two years. All of the districts have adopted school impact fees for new development. Growth in the county will require new facilities or additions in Arbuckle, Colusa, Maxwell, and Williams. The Colusa and Williams Districts will each require an additional elementary school by the year 2010, and the Williams District may also need to expand the middle school or adjust classes. The Pierce District (Arbuckle/Grimes) is planning a new junior high school, and additions to the elementary school will be required before 2010. The Maxwell District will need to expand the existing elementary school.

Libraries. The county library system is part of a 13-county circulation network in northern California. The system includes the main facility in Colusa and satellite facilities in Arbuckle, Grimes, Maxwell, Princeton, Stonyford and Williams. The libraries will continue to experience increased demands as the county's population grows.

Mitigation Measures. Mitigation measures are prescribed in the policies and implementing actions of the Community Services Element. Water service policies call for the county to ensure that water originating locally is available to the county, and encourage a thorough understanding of the quality and availability of the county's

groundwater resources. New wells are required to meet state water quality standards, and the availability and quality of water will be primary considerations for new development projects. Consolidation of independent water districts is encouraged. Policies in the general plan also recommend that municipal and industrial water be obtained from irrigation canals to avoid total reliance on groundwater for domestic use.

Wastewater disposal policies discourage urban development in communities not served by a central sewer system. Group septic systems are encouraged where rural development exceeds one unit per acre. The Health Department should monitor groundwater quality as development occurs in the newly designated rural residential areas southwest of Maxwell and near the Arbuckle Golf Course. Development standards for wells and septic tanks should be applied in these areas and in and other areas where rural residential development is proposed.

The Community Plans channel development away from flood-prone areas. Flood control policies encourage preparation of a countywide drainage and flood control plan. New development would be required to mitigate drainage impacts. The plan encourages development projects which do not require costly flood control structures and drainage improvements. The plan also requires that environmental values be considered in all flood control projects. Financing of flood control efforts is to be through zones of benefit, as well as through acquisition of state and federal funds wherever possible.

Solid waste policies call for an update of the 1975 Solid Waste Management Plan and, while exploring the need for additional solid waste disposal facilities, encourage reduction and recycling of solid and hazardous wastes. Law enforcement policies propose that new subdivisions be designed to foster a sense of community to reduce the likelihood of crime.

The General Plan channels growth into areas with relatively low fire hazards and with sufficient water pressure for fire fighting. Fire protection policies recommend continued operation of mutual aid agreements with neighboring counties. Development applications are to be referred to local fire chiefs for review and comment. Development which could present a hazard in the event of fire are not recommended near existing or planned residential areas. The plan recommends a numbered address system be implemented to facilitate emergency response. The development of additional or expanded library and health care facilities in the county is encouraged.

Geotechnical Hazards

Conditions and Impacts. This impact area concerns the potential effects to development from hazards associated with earthquakes, landslides, subsidence and settlement. Where these potential hazards are known to exist, threats to personal safety and property can be minimized by discouraging development. These issues are covered in the Public Safety Element.

There are no known active faults or any Alquist-Priolo Special Studies Zones within the Colusa County planning area; however, the possibility of a major earthquake on a fault within the county cannot be ruled out. Four minor quakes on an unknown fault in the foothills occurred in May 1985. Still, the best geologic evidence currently indicates that Colusa County would be expected to experience only low-intensity earthquake shaking from a fault outside the County. The maximum credible earth-

quake on the nearest fault would generate groundshaking intensity of VI to VII on the Modified Mercalli (MM) scale. This would result in damage to unreinforced masonry structures and chimneys, with moderate damage to reinforced masonry. An unknown and unexpected major earthquake could cause serious damage, particularly in the City of Colusa where many buildings are constructed of unreinforced brick.

Landslides can potentially occur in the Coast Range mountains and foothills of the western county, which are not heavily populated. Human activities such as excavation and timber harvesting can cause landslides; natural events such as earthquakes or heavy rains also can trigger slides.

Subsidence has occurred in the eastern portion of the county, particularly near Arbuckle. The subsidence, which is probably due to groundwater withdrawal, can create problems with structures and utility connections, particularly if it is not considered in structural design. Similar problems can occur for development on those portions of the county with soils which are highly expansive. The areas with expansive soils and known subsidence are primarily located in the eastern portion of the county.

Highly erodible soils are found primarily in the western portion of the county, although portions of the Sacramento River are subject to bank erosion and orchards in the Arbuckle area can be subject to considerable erosion during heavy rains. Concerns about erosion are primarily related to concerns about sedimentation (when eroded material is moved through and deposited in water courses) and protection of agricultural productivity. Lastly, a major volcanic eruption of Lassen Peak or Mount Konocti could be expected to deposit ash over portions of the county, but serious damage would not occur.

Mitigation Measures. Mitigation measures are specified in the policies and action programs in the Public Safety and Land Use Elements. The policies direct growth away from landslide-prone areas, and require geologic investigations for any development proposal which is located in an area of high landslide susceptibility or known subsidence. The county will promote resource management practices which minimize potential hazards.

Flood Hazards

Conditions and Impacts. This impact area concerns the potential threat to public safety and property from flood hazards. Impacts associated with storms, poor drainage and dam failures are discussed in the Safety and Community Services Elements.

The Sacramento River and several creeks throughout the county are subject to flooding by the 100-year flood. The urbanized area subject to flooding from the Sacramento River includes the communities of Colusa, Grimes and Princeton. The county participates in the Federal Flood Insurance Program, and the Colusa County Office of Emergency Services has developed guidelines for responding to Sacramento River flooding.

Statewide flood protection programs date as far back as the early part of this century. The Department of Water Resources routinely monitors river levels and relays the information to the County Sheriff's Communication Center. A significant problem is the winter flooding of the Colusa Trough: the amount of irrigated agricultural land exceeds the capacity of the drainage ditch and the flooding problem is further exacerbated by uncoordinated levee maintenance. Localized flooding occurs in several communities in the county because of poor natural drainage and inadequate storm drain systems. A large portion of the city of Williams lies within the 100-year flood plain of Salt Creek, and should not be further developed for urban uses until the boundaries of the flood plain are identified and protection measures are taken.

The Colusa County Flood Control and Water Conservation District was created in 1983 to address countywide drainage problems on the basis of "zones of benefit." A drainage "zone of benefit" has been established in the vicinity of Colusa to improve local drainage problems.

Implementation of the General Plan will allow additional urbanization of the county which, for flood control purposes, means that the amount of permeable surfaces for stormwater drainage will be reduced and storm runoff will be increased. The amount of flooding will increase if measures are not taken to drain the additional runoff.

A second type of flood hazard exists in the possibility of dam failure on any of several major reservoirs located on tributaries of the Sacramento River. Inundation from the four dams which could affect the eastern portion of the county could reach the vicinity of Colusa in as short as eight hours or as long as 42 hours. Responses to such an emergency would be coordinated by the state and county offices of emergency services.

Mitigation Measures. Flood hazards are mitigated by the policies and action programs of the Safety, Community Services and Land Use Elements. These measures direct growth away from high-risk areas and force compliance with Federal Emergency Management Agency requirements for development within a flood plain. No urban development will be permitted within the Designated Floodway of the Sacramento River. The primary tool for overall control of existing flood problems and planning for anticipated future increases in runoff would be through development of a countywide drainage and flood control plan, assessing needs and costs of different flood-control alternatives. The plan also recommends that new development mitigate its drainage impacts. Financing of flood control measures and drainage improvements would occur through zones of benefit; development which would require costly flood control measures will be discouraged.

Additional policies focus on establishing procedures for emergency response, including temporary shelters, communication and evacuation. Policies also support interagency and interjurisdictional coordination. The Plan seeks to locate new critical facilities (those facilities that offer essential services in an emergency, such as police and fire stations) away from areas subject to flooding.

Noise

Conditions and Impacts. This impact area addresses the projected change in the ambient noise environment and the extent to which sensitive receptors (such as residences, schools, churches, libraries, public meeting rooms, and other areas where

quiet is important) would be exposed to excessive noise levels. Existing and future conditions are presented in the Noise Element, although it is useful to examine the Land Use, Circulation and Housing Elements to note the recommended development and circulation patterns.

Colusa County is presently a very quiet rural area, and noise is not perceived to be a significant problem. The greatest sources of noise will continue to be vehicles on the highways (I-5 and Highway 20). Low-flying airplanes, agricultural machinery and related industries, and the Southern Pacific railroad also contribute to overall noise levels. Noise in the western portion of the county is limited to traffic noise along steeply sloping grades and off-road vehicle noise in the Letts Lake vicinity. These are very sparsely populated areas and noise is generally not disruptive.

Arbuckle is currently affected by noise in the immediate vicinity of I-5, which bisects it. Noise exceeding 65 dBA affects roughly 15 percent of all Arbuckle residences, as well as a much smaller number of Maxwell and Williams residences. Noise from Highway 20, which runs through Colusa, generally affects land uses within one block in either direction. Several homes in Arbuckle, Maxwell and Williams are also affected by railroad noise. Several noise-sensitive uses, including the migrant labor camp, public libraries, and schools are affected by traffic noise in the county.

Future noise levels are likely to increase slightly with increases in traffic volumes. The Highway 20 bypass of Colusa will alleviate some noise in that community. Urban residential development planned along Highway 20 in Williams, however, may be subject to excess noise unless mitigation measures are taken in the design and construction of the development. Noise in Colusa County would be likely to become a more serious problem only under two possible circumstances: if a new noise source (such as an industrial use) is introduced to an area where residents are accustomed to quiet; or if new housing is built in an area where the existing noise levels exceed the new residents' expectations. Some concern has been expressed over the noise which could be associated with mineral extraction activities which would occur in areas which are now very quiet.

Mitigation Measures. Noise impacts are mitigated by the policies and implementing actions of the Noise, Circulation and Land Use Elements. The primary means of controlling adverse noise impacts is through the establishment of noise/land use compatibility guidelines. These guidelines identify the various levels of noise that are acceptable, conditionally acceptable, and normally unacceptable for different land uses. These guidelines are presented in Table SAFE-3. Additional measures are identified in the Plan, including preparation of noise contour maps and a possible enactment of a noise ordinance. The General Plan attempts to separate noise-sensitive uses from noise-generating uses as much as possible, and suggests that environmental impact reports be required for projects which could adversely affect noise-sensitive uses or which might themselves be vulnerable to existing noise sources.

The Noise Element contains a number of other possible mitigation measures that could be considered by the county and incorporated as provisions in a noise ordinance, as conditions to approval of a development permit, or as mitigation measures required of developers. These measures include landscaping, structural noise shields, noise control equipment for industrial activities such as silencers, site planning to orient noise sensitive areas of a project away from noise sources, architectural design concepts that locate noise sensitive spaces away from noise sources, and acoustical construction techniques such as increased wall mass and stiffness and use of double-glazed windows.

Air Quality

Conditions and Impacts. This impact area addresses the potential increases in air pollutant emissions as a result of development permitted by the Plan. The Conservation Element describes the regional air quality conditions. The region meets federal air quality standards for all regulated pollutants. Local air quality in Colusa County is estimated from measurements at three monitoring stations in the county. Agricultural burning is the major source of air pollutants; it is regulated by the Colusa County Air Pollution Control District according to statewide requirements. The Air Pollution Control District issues permits for agricultural burning.

Mitigation Measures. Air quality impacts are mitigated by policies and action programs presented in the Conservation Element. These measures recommend that the County Air Pollution Control District continue to issue permits for agricultural burning and enforce regulations. In addition, the Plan encourages a compact development pattern to reduce auto trips and promote alternate means of transportation.

Energy

Conditions and Impacts. This impact area addresses the increase in energy consumption generated by the Plan and examines the opportunities to promote energy conservation. This issue is discussed in the Conservation and Circulation Elements. Increased development will result in increased energy use. Moreover, there may be opportunities for new energy development in Colusa County in the Wilbur Springs Geothermal Resource Area.

Mitigation Measures. Energy impacts are mitigated by policies and implementing actions in the Land Use, Circulation and Housing Elements. The Housing Element promotes energy-conserving residential development; the compact development plan proposed in the Land Use Element will minimize additional auto trips, and the Circulation Element policies encourage the development of bicycle and pedestrian paths as an alternative mode of travel. These actions help to reduce travel-related energy consumption.

Water Supply and Water Quality

Conditions and Impacts. This impact area addresses the need for adequate water supplies and the potential for degradation of water quality. Potential contamination of water resources is discussed in the Conservation, Open Space, Community Services and Safety Elements.

The surface water system in the county is made up of natural and man-made drainage systems. Some runoff from the foothills and water from the upper Sacramento River is channeled into the Glenn-Colusa Canal, Tehama-Colusa Canal and the Colusa Drainage Canal. These canals serve as the primary sources of irrigation water. Most of the irrigation water for the county comes from the Glenn-Colusa Canal, which takes its principal supply from the Sacramento River upstream of Colusa County. Some of the runoff from Colusa County and upstream regions recharges the groundwater basin in Colusa County. Groundwater recharge areas are not planned for extensive development. More specific analyses of development's

impact on groundwater must be conducted on specific sites as development is proposed, particularly for industrial or waste disposal projects. Any mineral resource extraction activities which could discharge wastewater would be regulated by the Central Valley RWQCB.

The Bureau of Reclamation has a long-standing proposal to construct a reservoir at Sites. Although water demand will rise in the future both within and outside of the county, the 20-year water supply appears to be adequate at the present time. Because water from a reservoir at Sites does not appear to be essential at this time, the project was determined to be economically infeasible by the Bureau of Reclamation. In any case, the reservoir was not intended to provide additional water to Colusa County.

Water from the Bureau of Reclamation's Central Valley Project canals also serves the National Wildlife Refuges, which are critical wintering grounds to birds traveling the Pacific Flyway. The Bureau of Reclamation does not recognize wildlife as a "beneficial use" of its water, and it is not legally committed to supply that water to the refuges.

Agriculture is the major user of water in the county. Domestic needs are met with groundwater, which is considered to be of good quality. However, some contamination from residues of herbicides has led to concern over downstream water quality. The State Departments of Health Services and Fish and Game have established action programs to correct problems, and the Department of Food and Agriculture has established a rice herbicide control program, administered by the local Agricultural Commissioner. The State Water Resources Control Board and the Central Valley Regional Water Quality Control Board have also been assessing the quality of the Sacramento River water. Concern over injection wells has influenced the county Planning Commission to require further environmental analysis prior to allowing further development of the wells. The U.S. Fish and Wildlife Service has noted that water quality monitoring is needed at the wildlife refuges.

Mitigation Measures. The policies and implementing actions in the Conservation, Open Space, Community Services and Safety Elements address issues of water supply and quality. The policies recommend that the county develop regulations for injection wells to ensure that the saline water does not contaminate groundwater. The policies also recognize the county's limited financial resources to conduct water quality sampling and stress the need for state financial assistance in this area. Additionally, new water supply wells must meet state water quality standards. Coordination with other counties along the Sacramento River has been recommended to assure protection of the groundwater resources.

The General Plan recognizes the importance of an adequate and safe water supply and requires that water quality be considered in the review of new development projects. Policies also promote water-conserving agricultural practices and reuse of water where appropriate. The county will discourage development of a reservoir at Sites, since the project will provide few benefits for the county and extensive environmental impacts. Community Service policies recommend that the county support studies of the groundwater basin and suggest support of water development projects originating in the county only if the county secures first rights. Consolidation of existing water districts where feasible is also recommended.

Biological Resources

Conditions and Impacts. This impact area addresses the potential impacts to environmentally sensitive plant and animal communities in the county. The focus of this discussion, which can be found in the Conservation and Open Space Elements, is on the National Wildlife Refuges and other wetlands resources. Colusa County supports major plant communities: wetlands, including vernal pools and riparian vegetation, valley grassland, chaparral, foothill woodland, and pine-fir forest. These plant communities provide habitat for a variety of wildlife species. The wildlife refuges, the Sacramento River corridor, the Bear Valley Buttes and portions of the Mendocino National Forest provide areas of high raptor nesting.

Freshwater wetlands and marshes are found along the Sacramento River and in the National Wildlife Refuges: these areas serve as critical wintering grounds for migratory birds traveling along the Pacific Flyway, particularly since available wetland areas have diminished at astonishing rates in recent decades. Rice farms also provide some habitat for migrating birds; however, neither the refuges nor the rice farms are flooded long enough to permit the growth of other water-dependent plants which are an essential food source to the birds.

Vernal pools, listed as a rare and threatened natural community by the California Natural Diversity Data Base, can be found throughout the county. Examples of the Great Valley Riparian Woodlands, also a rare and threatened natural community, can be found along the Sacramento River. Some rare, endangered, or candidate plant and animal species are found in the county. These are listed in the Conservation Element. Among these are a population of native perennial grasslands near Salt Creek about six miles west of Williams.

Fish habitat has been reduced due to factors such as bank alterations and filtering screens at upstream irrigation pumping stations. A program to design fish screens to mitigate interference with fish migration has just been initiated.

Many of the county's fish and wildlife resources exist primarily because of the lack of intensive development throughout the county. Future development could adversely affect the plant and animal communities, as well as rare and threatened species, if it occurs without adequate precautions.

Mitigation Measures. Biological resources are protected through the policies and implementing actions of the Land Use, Conservation and Open Space Elements. These policies call for preservation of biological resources and habitat in the county, including wetlands, using Resource Conservation and Agricultural land use classifications. The county will continue to encourage the use of private lands fronting the Sacramento River for agriculture, resource conservation, and low intensity recreation in limited locations. Lands occupied by rare or endangered plant or animal habitat, including the native perennial grasslands near Salt Creek, are to be maintained in open space.

Cultural and Historic Resources

Conditions and Impacts. This impact area addresses the potential disruption of cultural and historic resources as a result of implementation of the Plan. This issue is covered in the Conservation Element. Colusa County has several historical structures, some of which are listed on or are eligible for the National Register of Histor-

ic Places. Colusa County also contains several California Historical Landmarks. The county also has abundant archaeological resources, particularly in the city of Colusa which is built on the ruins of an extinct Indian settlement.

Native Americans inhabited much of the Central Valley, particularly along the banks of perennial streams. Village sites, including several near Grimes, exist along the Sacramento River. The western foothills and Bear Valley are highly sensitive areas of archaeological potential. Some areas of moderate sensitivity exist in the vicinity of Stonyford, Stony Creek, and East Park Reservoir, and along major water courses such as Funks, Cortina, Sand, and Hyphus Creeks. Century Ranch has been identified as possibly containing archaeological resources.

It is important that the remaining historic and archaeological resources are not destroyed by new development. Historic structures are an important reminder of Colusa County's heritage and archaeological sites have significant educational and cultural value. Cultural and historic resources could be disturbed by new development during the excavation of land for new sites or the razing or alteration of historic buildings for new buildings. While most sensitive areas of the county have been designated for agriculture or other open space uses, new growth is planned for the city of Colusa. The potential for damage exists as construction occurs.

Mitigation Measures. The policies and implementing actions in the Conservation Element address the protection of cultural and historic resources. The Plan recognizes the importance of preserving some of the links that Colusa County has with its distant and recent past. Policies encourage the preservation of historical sites and structures through application for landmark status or National Register listing, and re-use of structures, where appropriate. One recommended mitigation measure calls for an archaeological survey for development projects which could damage archeological resources in areas where such resources are believed to be present.

Other Natural Resources

Conditions and Impacts. This impact area is concerned with the managed production of resources. These issues are discussed in the Conservation and Open Space Elements. Colusa County contains timber lands, mineral deposits and geothermal resources. Development of resource areas with urban uses or other uses which could conflict with resource extraction could cause important resources to become unavailable for future utilization.

The timber lands are not a designated Timber Resource Zone, although some harvesting does occur. No additional road building is planned. The county is the second largest producer of natural gas in the state, with the gas fields occurring in the southeastern portion of the county. Potentially significant deposits of gold exist in the western mountains. Several geothermal springs may be suitable for energy development.

Mitigation Measures. Policies in the Conservation and Open Space Elements call for the conservation of the county's natural resources, and encourage the use of resources where extraction activities will not degrade endangered plant and animal populations. The Plan recommends that a study be conducted of the potential for geothermal energy development. The General Plan also supports the Mendocino National Forest Plan, which identifies resource management uses for land in the

Mendocino National Forest. Significant mineral extraction projects should be subject to site-specific EIRs which address environmental impacts in greater detail.

LONG TERM SECONDARY IMPACTS

Growth-Inducing Impacts

The availability of relatively inexpensive buildable land, planned and zoned for development, could induce considerably more growth than that which is desired by most county residents. Rising land prices in Sacramento and the Bay Area could trigger a migration of business and industry to the large development areas shown in this general plan. This in turn would induce population growth in excess of that projected. The most serious effects of such growth would be the loss of agricultural land, reduced tolerance for local agricultural needs, interference with adjacent farm operations, and the loss of community identity. Other effects would be increased development pressure in areas which are largely unsuitable for urban uses, traffic, and overburdened public services. Because these impacts contradict the basic objectives of the general plan's policies, development that produces such results could not occur without amendments to the plan.

The General Plan attempts to avoid this type of growth by proposing that development be concentrated in existing communities. While the Plan does allow some extended growth along I-5, it proposes unified development standards to guide the character and quality of growth. It also suggests that land that is planned for growth not be zoned for development until development proposals are made. It also restricts the subdivision of farms into "ranchettes" and discourages any development that poses a hardship to agriculture.

Although the General Plan proposes land uses which could ultimately increase the county's population substantially, the magnitude of the changes proposed is far less than those proposed in most Central Valley counties. If managed properly, the growth that does occur should be beneficial. For instance, the General Plan encourages commercial uses to locate in the downtown areas of communities. Development in existing business districts, particularly if it spurs additional growth, would be considered a beneficial growth-inducing impact, since it would revitalize deteriorating downtown areas.

The project would eventually require improvements to utility and road systems in some communities. These improvements could induce growth by accommodating additional development beyond that which already exists. It is important to recognize, however, that road improvements may be made for increased traffic generated outside of the county. To the extent that these improvements exceed the generated need, some growth would be induced. This is unlikely, however, given financial constraints faced by Caltrans, the agency which would finance regional roadway improvements.

Due to the dispersed nature of development in the Sacramento Valley, it is not likely that development in Colusa County would induce further growth in any of the surrounding counties; however, it is important to keep in mind that the communities of Colusa County are within commuting distance of job centers in surrounding counties. To the extent that housing (or jobs) are available in Colusa County, it is

possible that additional demand for jobs (or housing) could occur in surrounding areas. The effects of such growth are not expected to be significant.

Cumulative Impacts

Cumulative impacts are those which result from the project considered in conjunction with those resulting from additional growth already occurring in the vicinity, and from additional growth which might be induced by the project. These impacts could include greater increases in traffic, air pollutants, and noise, increased burdens on public facilities and utilities, and additional commitment of non-renewable resources.

The addition of jobs and residents also must be considered in a discussion of cumulative impacts. As previously suggested, new Colusa County residents may work in nearby counties; conversely, people who work in Colusa County may live in other nearby counties, creating an increased burden on the public services of those counties without contributing significantly to the costs of those services.

Most cumulative impacts would be related to increases in traffic and the overall efficiency of the transportation system, as well as the conversion of agricultural land to urban uses. Again, the degree to which such factors affect other counties is not known, and any guess would be highly speculative. The overall level of development proposed in Colusa County is minor in comparison with the development which is planned in surrounding counties. Thus, relative to the region, the cumulative effects of this General Plan should not create an undue burden on the local or regional services or environmental resources.

Cumulative impacts include increased loss of agricultural lands to urban uses both within and outside of the County. Overall, however, impacts on the agricultural sector would be positive. Because the General Plan directs growth to less productive agricultural land and because policies specify that priority should be given to agricultural support uses and to businesses which enhance agricultural activities, the cumulative effects on the county's economy should be positive. Growth will diversify, stabilize, and complement the agricultural sector. While growth in surrounding counties could put development pressure on Colusa County agricultural operations and could compete with local agricultural support industries, the General Plan contains policies that strengthen agricultural industry to counter such adverse effects.

The county should remain cognizant of growth in other counties which could adversely affect planning in Colusa County, since development in surrounding counties could cause greater problems in Colusa County than development in Colusa County would be likely to cause in surrounding areas. One indicator of the surrounding growth is the projected increase in traffic on state and federal highways; projected percentage increases in traffic on I-5 and Highway 20 far exceed projections for local streets. Likewise, population projections for adjoining counties--especially Yolo, Lake, and Sutter, far exceed those for Colusa County.

Short-Term Versus Long-Term Effects

State CEQA Guidelines (Section 15126(e)) require that an EIR include a description of the relationship between short-term and long-term environmental effects due to a

proposed project. In the case of the Colusa County General Plan, the reasons for adopting the plan now, rather than at some time in the future, are clear. The county has enjoyed a very slow pace of growth and, until recently, has not been forced to address issues of long-term protection of its resources. Growth pressure from surrounding areas, particularly the expanding Sacramento Metropolitan area, indicate that Colusa's resources may be threatened in the future. By adopting the General Plan, the County can accommodate a reasonable amount of growth in an environmentally appropriate manner. If implemented properly, the plan will maintain the integrity of existing communities while facilitating a much-needed boost in downtown commercial activity. It also will provide protection for the County's agricultural and other natural resources in the face of mounting pressure for rural-residential development. If a new General Plan were not to be adopted, the County would not be equipped with a regulatory basis for guiding development into appropriate areas. The result could be scattered rural residential development, haphazard non-residential growth, and exacerbated economic problems. This could in turn detract from Colusa County's natural beauty, resource-based economy, and agricultural character.

Significant Irreversible Environmental Changes

The Colusa County General Plan would result in changes brought about by urban growth; most of these changes are irreversible. Although the Plan encourages growth primarily within the service areas of existing communities, some of that growth will occur on what is now undeveloped or agricultural land. Agriculture is a valuable and sensitive resource, and its conversion should not be taken lightly. Land cannot be brought back into agricultural use once it has been urbanized.

In addition to the loss of agricultural lands, new development will be accompanied by increased pavement coverage, possibly reducing recharge areas and increasing flood hazards. This result is also effectively irreversible.

A separate issue involves the effects of mineral extraction, which could occur in the southwestern portion of the County. The visual and water quality impacts of mining a mountainous, undeveloped area would be conspicuous. Although much progress has been made toward reclaiming mined lands the success of such programs has not been significantly tested. Furthermore, once the ore is taken, it can not be replaced, nor can the materials excavated in the process of mineral extraction be replaced. Finally, most changes that will take place under the General Plan will involve commitments of non-renewable energy, both during construction of projects and after the actual occupation of new homes and businesses.

ALTERNATIVES

This section identifies alternatives to the proposed project and discusses environmental impacts associated with these alternatives. Over the course of the general plan program, a number of alternatives were examined. It was recognized that Colusa County had limited control over the size of its future population, that births, deaths, and migration were factors that could not be significantly influenced by local land use policy. Thus, the alternatives generally made the assumption that a year 2010 population of 23,500 was a "given". The real choice was not "How big do we want to

grow?", but "Where do we want to put the growth that is coming?." Alternatives focused on different distributions of future population and employment within the county rather than different quantities of population and employment.

Preferred Alternative

The proposed General Plan, or the preferred alternative, concentrates future development around the communities of Arbuckle, Colusa, Maxwell, and Williams. Rural-residential development is strongly discouraged, as such development has been acknowledged to be counterproductive to agriculture. Large vacant areas for industry have been designated around the four "growth" communities; agricultural industries are preferred in these areas, although agriculturally-compatible industries are also viewed as desirable. The preferred plan departs from the historical trend in which the city of Colusa captured most of the county's industrial and residential growth. Although Colusa is still to remain the county's cultural, commercial, and governmental center, an increasing share of population and job growth is to shift to Williams and Maxwell. The preferred plan also places strict limits on growth in the western half of the county, recognizing that this area has limited water resources and road access.

Several modifications were made to the preferred alternative during the Draft Plan review and adoption process. The result of these changes is that policies regarding the phasing of growth and the development of new rural residential areas are more flexible than they were before. In addition, the total supply of developable land has increased slightly. Finally, policies encouraging public acquisition of riverfront lands have been stricken. It is believed that acquisition might have negative economic impacts and that increased public access could harm rather than conserve the plants and animals that live along the river.

No Project Alternative

The No Project Alternative assumes that the County rejects the proposals and provisions recommended by this plan and continues to follow the policies of the 1970 Plan and the 1974 update of the Land Use and Conservation Elements. This would be problematic, as the 1970 Plan reflects very different conditions than the 1988 Plan.

The earlier plan does not acknowledge the development pressures faced by the county today, as it could not foresee the increasing influence of the Sacramento and Yuba City-Marysville metropolitan areas on Colusa County. Nor could the earlier plan foresee the economic hardships now being faced by Colusa County farmers, or the fiscal constraints now being faced by county government. The earlier plan also did not recognize the overwhelming desire to keep the county's smaller communities rural; for instance, the 1970 Plan proposed central water and sewer systems in College City. Conversely, the old General Plan does not acknowledge the need to diversify the local economic base and attract industry to the county. Industrial land use designations are limited and few policies in that plan support today's paramount objective of bringing new job opportunities to the county.

In terms of land use, the differences between the old plan and the proposed plan are significant. On a county-wide level, the old plan used an extensive and complicated system of land use categories to classify agricultural and resource lands. The classification system was applied according to natural resource data and ownership

patterns that have become outdated. At the community level, the 1970 Plan did not contain community-specific land use plans for Arbuckle, College City, Grimes, Maxwell, Princeton, or Stonyford.

Within the Colusa and Williams spheres of influence, the "no project" alternative would limit opportunities for new industrial and residential growth. The impact would be much greater in Williams than in Colusa, since the 1970 Plan and 1987 Plan for Williams are much more divergent. Without the new general plan, the county would lack the basic foundation needed to attract industry to the I-5 Corridor in Williams.

Because the No Project alternative does not address many of the County's objectives, it is not considered to be viable. The intent of the County in undertaking this comprehensive planning program has been to overhaul the 1970 Plan and to give thought to the function and character of the county. As a result, the policies of the new Plan offer more guidance and serve to address potential impacts proactively. Decision-making without a clear vision of the future has been acknowledged by Colusa County residents to be undesirable; the new plan provides a firm foundation from which such decisions can be made.

Colusa Growth Center Alternative

This alternative assumes that the city of Colusa becomes the primary area of residential, commercial, and industrial growth in Colusa County between now and the year 2010. This could be accomplished by limiting the area in Arbuckle, Williams, and Maxwell for residential and industrial growth and by restricting rural residential development. Under this option, more than half of the total growth in the county over the next 25 years would occur in the city of Colusa. The city would annex the land within its primary sphere of influence and would encourage single family residential development on most of the annexed land. New industrial growth would be centered near the airport and along South Highway 45.

Additional commercial development would occur along Highways 20 and 45, and a Highway 20 bypass would be built south of the city. Under this hypothetical scenario, Colusa would experience a 125 percent increase in population, requiring the expansion of the sewage treatment plant and the construction of new schools and other public buildings.

Even with Colusa as the leading growth center, Williams would be likely to double in size, and would also experience a large amount of industrial and residential growth. As in Colusa, the growth would mean that major improvements to schools and utilities will be required. Growth within Arbuckle would be more modest, with development limited to the areas already served by sewer and water. Maxwell would grow at a relatively slow pace, with new housing limited to properties within the utility district boundaries. Some commercial and industrial development would be encouraged around the I-5 Maxwell interchange, but the amount of development is not great enough to require expansion of the sewer and water systems.

Under this alternative, Princeton, Grimes, and College City would experience very modest growth. No large-scale development would occur in the communities, but each year construction of a few homes could be anticipated on the remaining vacant lots. No major improvements to sewer and water systems would be required. The same would be true in Stonyford-Lodoga, where construction in some of the existing

subdivisions (Century Ranch and East Park Lake View Acres) would bring the total population of the area up slightly by the year 2010.

Although there are many positive benefits that would result from concentrating the county's future growth in a single community (more cultural and health care opportunities, easier provision of public transit, more efficient provision of some services, etc.), this alternative has a number of negative points. First, residents of Colusa do not appear enthused about a plan which would focus all of the county's future growth in their community. Conversely, residents of Williams and Maxwell would not favor a plan which limited their opportunities to capture some of the county's future industrial and residential growth. Such a plan would increase traffic, crowd schools, and probably cause drainage problems in Colusa; indirectly, such a plan could lead to higher crime and a loss of the character that makes the city of Colusa unique. Colusa also has sewer and water system problems that would need to be addressed before this alternative could be implemented. These factors were among those considered by the General Plan Citizen's Advisory Committee in their rejection of this alternative.

Dispersed Growth Centers

Rather than concentrating growth in a single city or in the freeway corridor, this alternative would encourage dispersed growth throughout Colusa County. This alternative assumes that the appeal of "small town living" will create a demand for new housing in Grimes, Princeton, College City, and the rural farm areas. Although the population increases in these towns would seem small relative to the county's total growth, each of these communities could nearly triple in size under this alternative. In Grimes, this would require construction of a central sewer system, while in Princeton, this would require expansion of the city's sewage treatment ponds. Under this alternative, both of these communities would fully develop the non-floodway portions of their utility district boundaries and then expand outward. In College City, most of the vacant parcels in the original townsite would be developed with rural residences. In all three communities, most of the growth is residential, but commercial uses are encouraged in the underdeveloped "downtowns" of each community.

The greatest changes, however, would come in the rural farm areas--for instance, the orchards south of Arbuckle and along the Sacramento River. Rural areas would experience at least a 20 percent increase in population from increased development of ranchettes, small "hobby" farms, vineyards, large-parcel ranch subdivisions, and growth in places like Delevan and Sites. With more lenient growth policies in the rural area, the west county could experience a 50 percent increase in population.

The remainder of the county's communities would still experience significant growth under this alternative. However, only 66 percent of the county's residential growth occurs in Arbuckle, Colusa, Maxwell, and Williams, compared with 94 percent in the Colusa Growth Center Option and 95 percent in the preferred plan.

This alternative is viewed as problematic for a number of reasons. First, it would induce traffic on rural county roads, and would require costly utility improvements in communities with limited financial means. Second, it would strain the county's ability to provide services, especially services such as fire protection, emergency medical care, and education. Third, and most significantly, this alternative would disrupt agriculture and would result in consumption of more farmland than any of the

others. These were some of the factors listed by the General Plan Citizens Advisory Committee in their rejection of this alternative.

No Growth Alternative

The No Growth Alternative would result in virtually no growth over the next 22 years. Each community would remain as it is today, with negligible commercial and industrial growth. In this instance, the only housing that would be built would replace homes that were either demolished, abandoned, or destroyed by natural disaster. Population in the year 2010 would be 14,800, just as it is today.

Although the impacts of this alternative would be negligible, there are several reasons why the No Growth Scenario is not a very practical option for Colusa County. First, there is a consensus among community residents that at least some level of growth is desirable to stimulate the local economy. Second, a "no growth" alternative would make it difficult for those born and raised in Colusa County to find jobs and homes locally. Third, it is not likely that the county can remain isolated from the growth pressures that affect Woodland, Chico, Yuba City-Marysville and other urban areas of the North Valley. Colusa County is not an "island" but is instead an integral part of one of the state's fastest growing regions. Fourth, development approvals have already been given to projects which make population and employment increases inevitable. Some of these projects were approved more than 20 years ago, while others have been approved within the last two or three years. In some cases, lots have already been sold and roads have been built in these areas; it would be extremely difficult to completely prohibit development over a 25 year period.



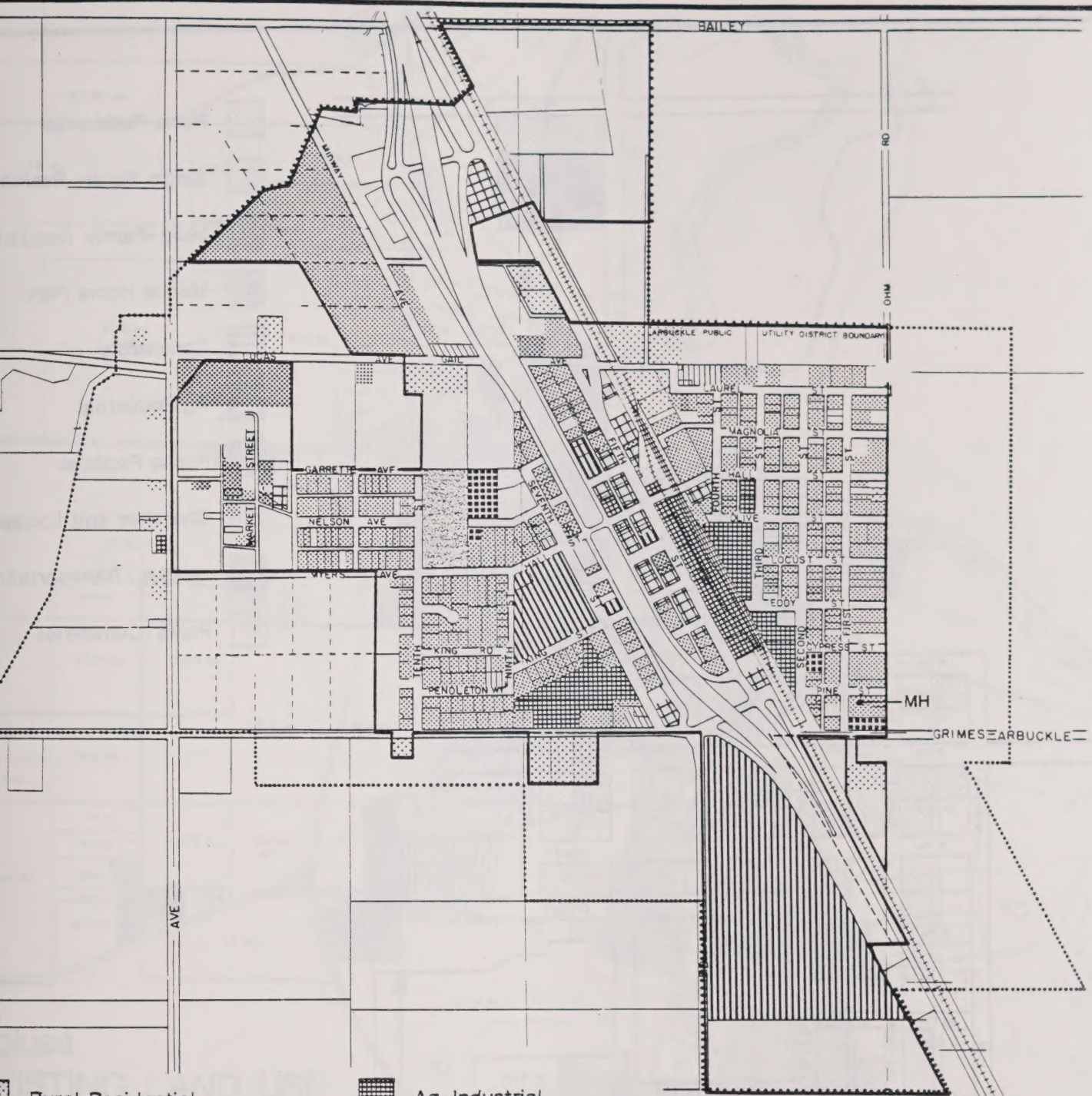
Appendices

APPENDIX A
EXISTING LAND USE MAPS

Arbuckle
College City
Colusa
Grimes
Maxwell
Princeton
Stonyford
Williams

Single-Family Residential	Public Facilities
Multi-Family Residential	Churches and Synagogues
Medium-Density Residential	Utilities
Commercial	Parks

Arbuckle
EXISTING LAND USE



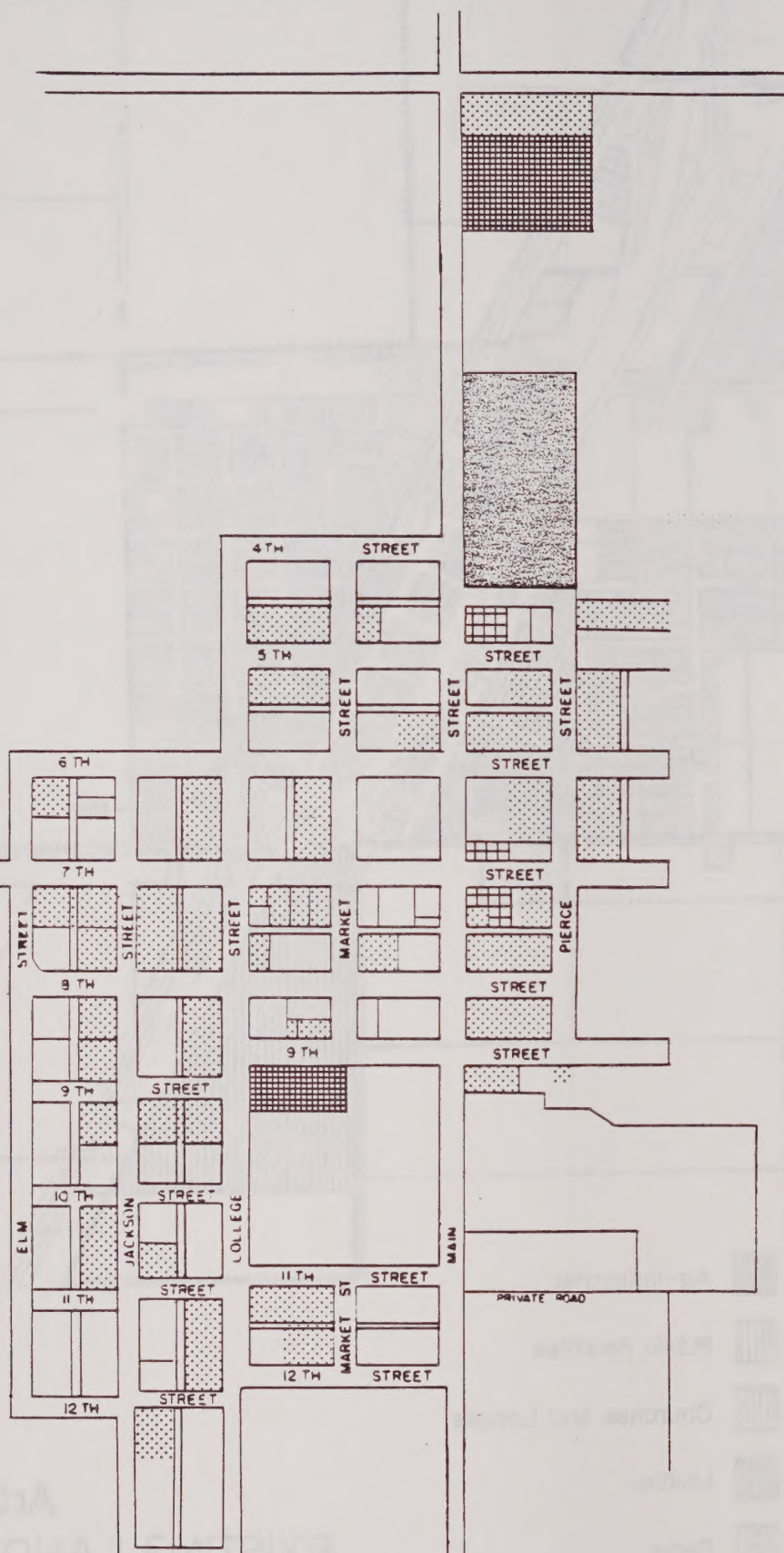
- | | |
|---------------------------|---------------------|
| Rural Residential | Ag-Industrial |
| Single Family Residential | Public Facilities |
| Multi-Family Residential | Churches and Lodges |
| Mobile Home Park | Utilities |
| Commercial | Parks |

Arbuckle EXISTING LAND USE

1" = 1100'



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates



-  Rural Residential
-  Single Family Residential
-  Multi-Family Residential
-  Mobile Home Park
-  Commercial
-  Ag-Industrial
-  Public Facilities
-  Churches and Lodges
-  Utilities / Transportation
-  Parks / Cemeteries

College City
EXISTING LAND USE

1" = 560'



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

SCALE IN FEET 0 1 2

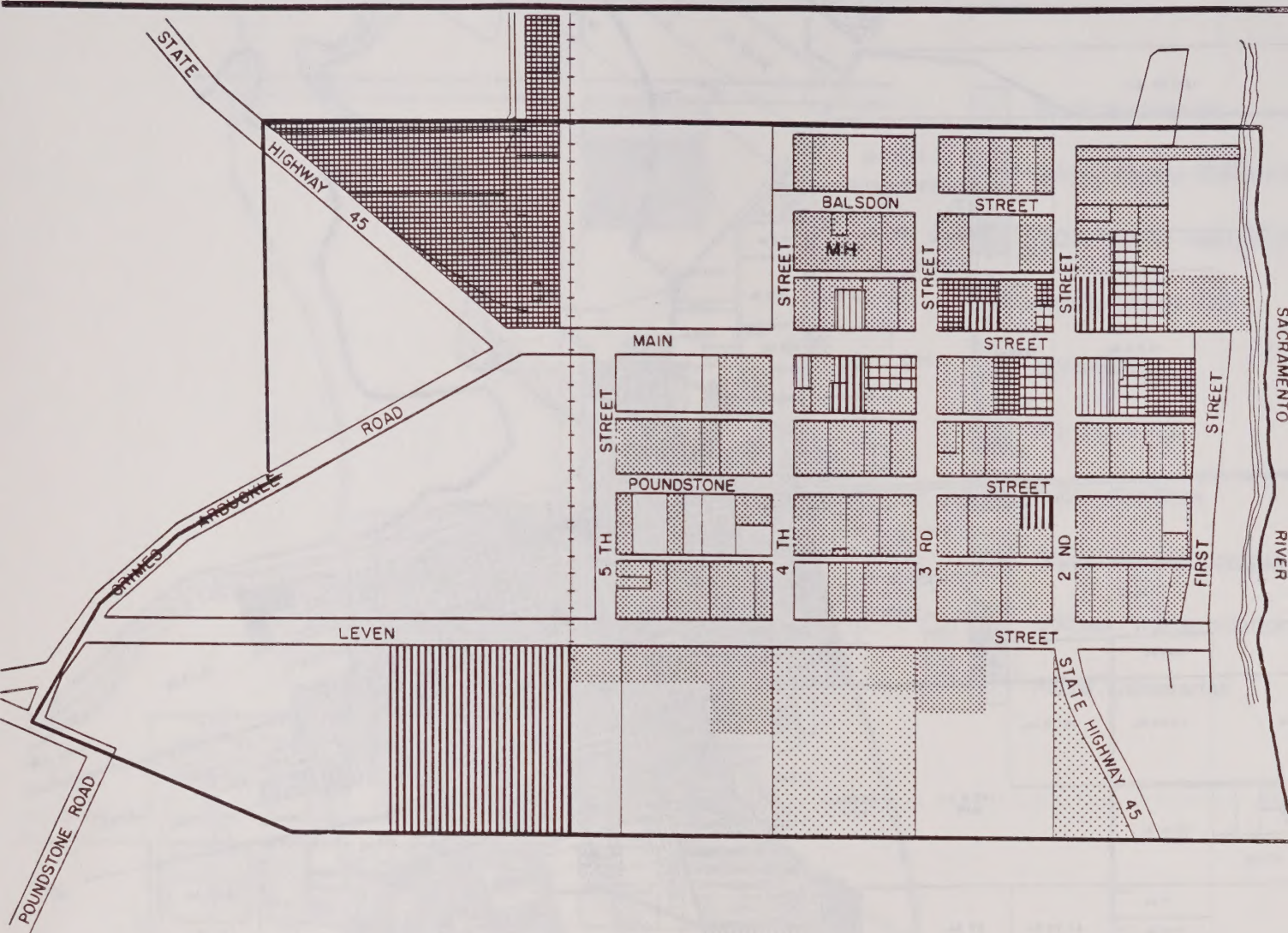


Colusa EXISTING LAND USE

- | | | | |
|---------------------------|--|---------------------------|--|
| Rural Residential | | Ag-Industrial | |
| Single Family Residential | | Public Facilities | |
| Multi-Family Residential | | Churches and Lodges | |
| Mobile Home Park | | Utilities /Transportation | |
| Commercial | | Parks /Cemeteries | |



1" = 2300'



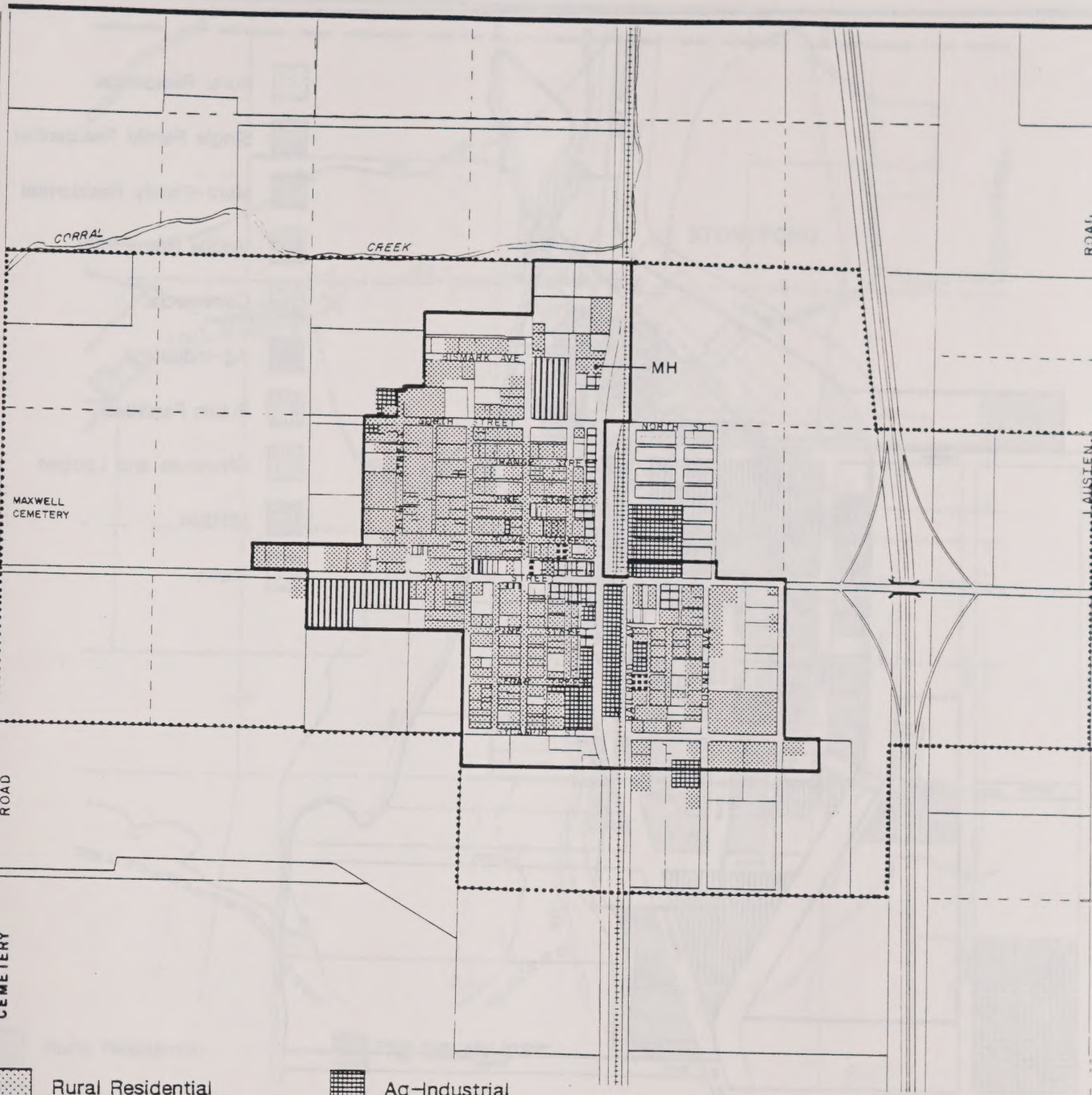
- | | |
|---------------------------|---------------------|
| Rural Residential | Ag-Industrial |
| Single Family Residential | Public Facilities |
| Multi-Family Residential | Churches and Lodges |
| Mobile Home Park | Utilities |
| Commercial | Parks |

Grimes
EXISTING LAND USE

1" = 480'

COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

SCALE IN FEET 0 1 2



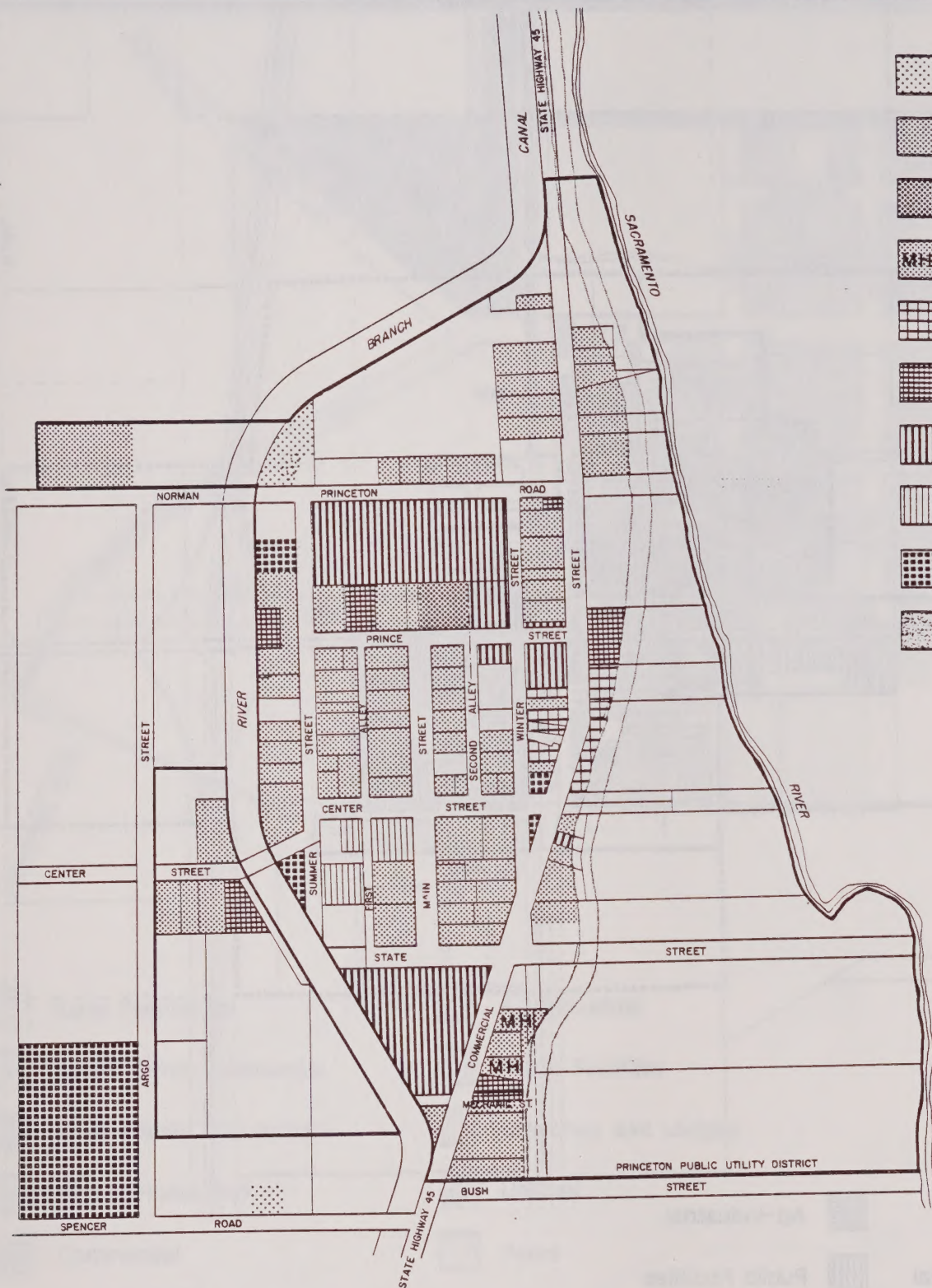
- | | | | |
|--|---------------------------|--|--------------------------|
| | Rural Residential | | Ag-Industrial |
| | Single Family Residential | | Public Facilities |
| | Multi-Family Residential | | Churches and Lodges |
| | Mobile Home Park | | Utilities/Transportation |
| | Commercial | | Parks |

Maxwell
EXISTING LAND USE

1"=1230'



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates



-  Rural Residential
-  Single Family Residential
-  Multi-Family Residential
-  Mobile Home Park
-  Commercial
-  Ag-Industrial
-  Public Facilities
-  Churches and Lodges
-  Utilities
-  Parks

Princeton EXISTING LAND USE

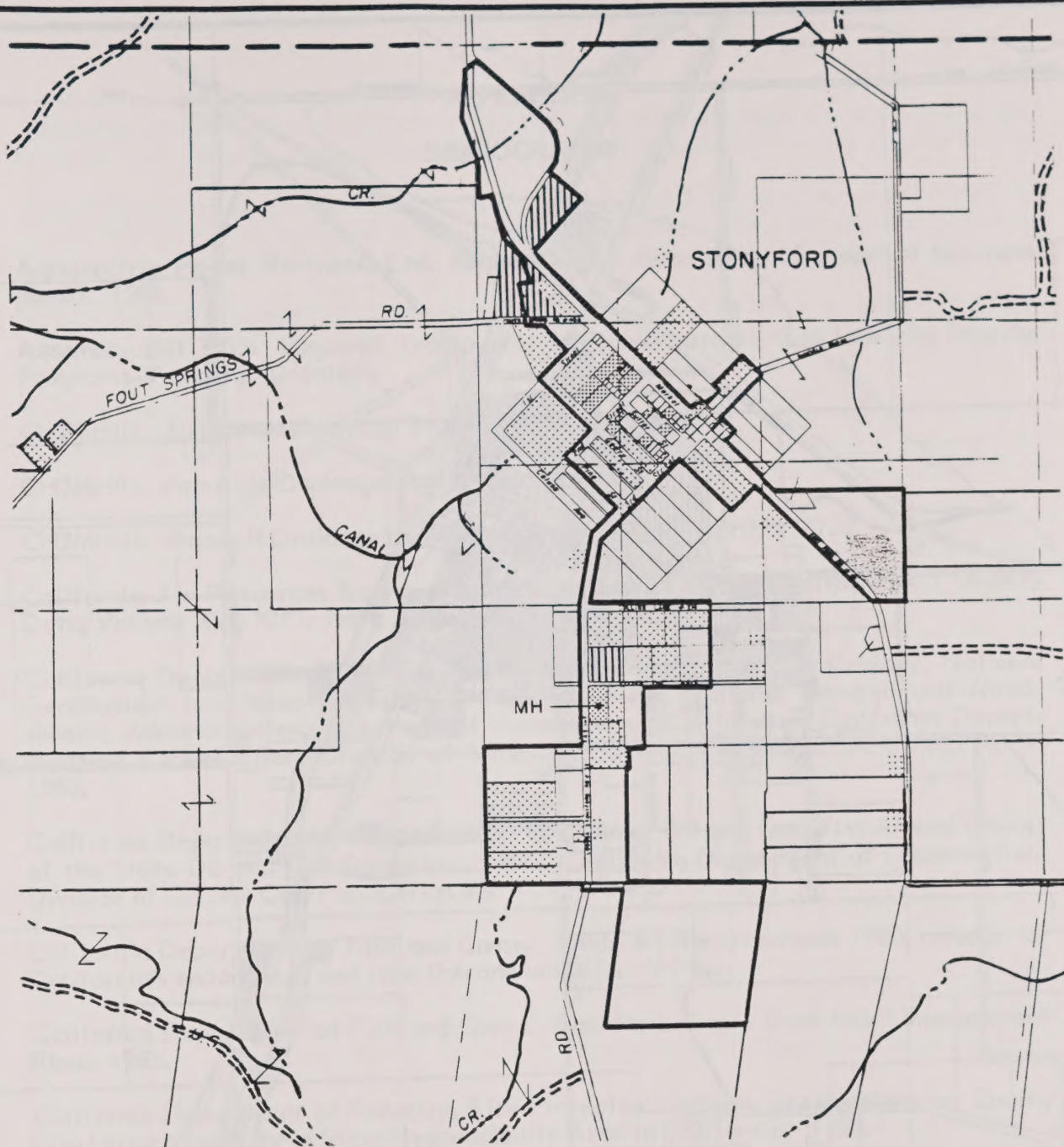
1"=600'



COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates

Scale in miles 0 1 2



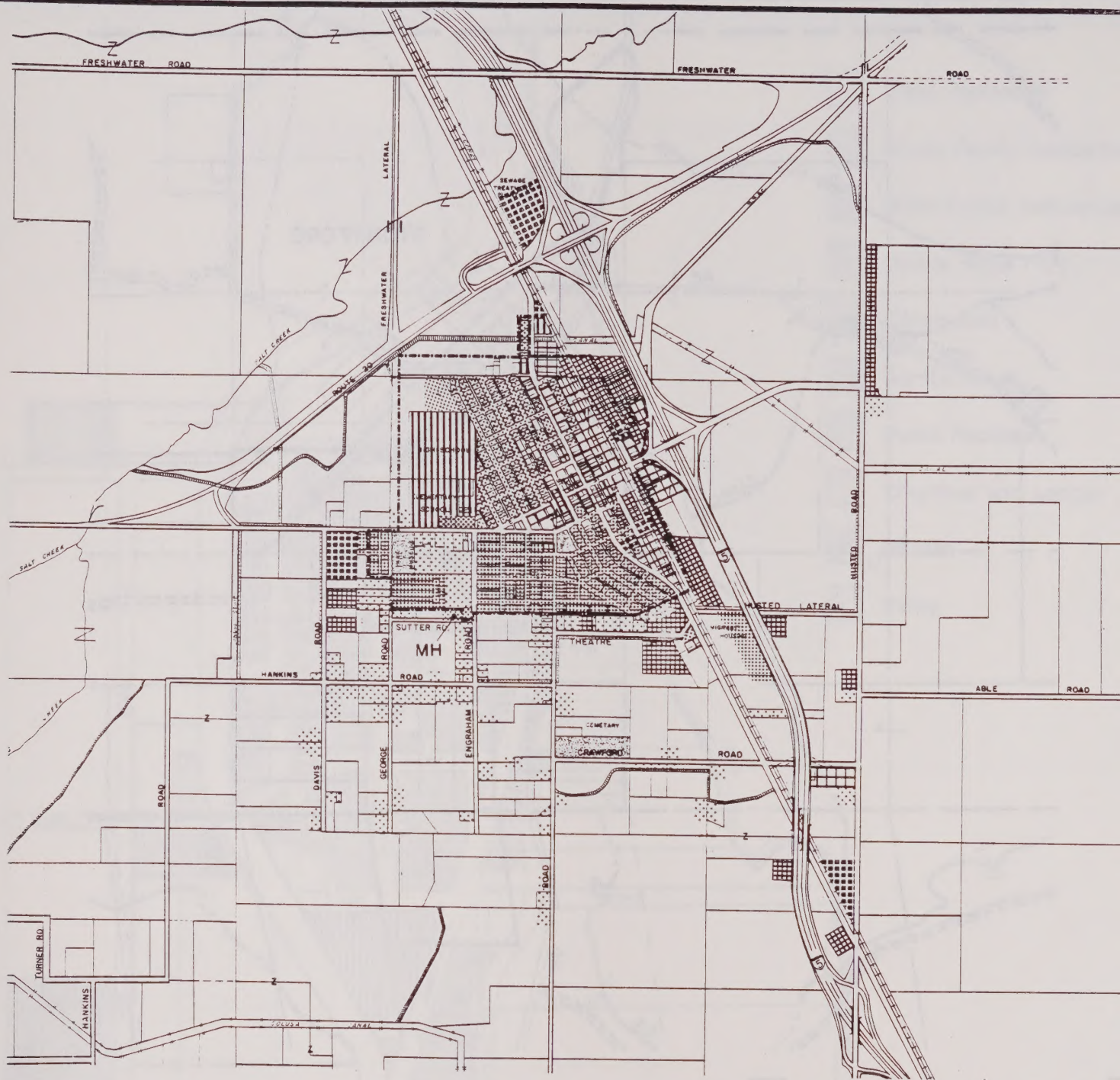
- | | | | |
|--|---------------------------|--|---------------------|
| | Rural Residential | | Ag-Industrial |
| | Single Family Residential | | Public Facilities |
| | Multi-Family Residential | | Churches and Lodges |
| | Mobile Home Park | | Utilities |
| | Commercial | | Parks |

Stonyford
EXISTING LAND USE

1"=1550'



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates



- | | | | |
|--|---------------------------|---|---------------------|
|  | Rural Residential |  | Ag-Industrial |
|  | Single Family Residential |  | Public Facilities |
|  | Multi-Family Residential |  | Churches and Lodges |
|  | Mobile Home Park |  | Utilities |
|  | Commercial |  | Parks |

William
EXISTING LAND USE

1" = 2600'



COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates

APPENDIX B

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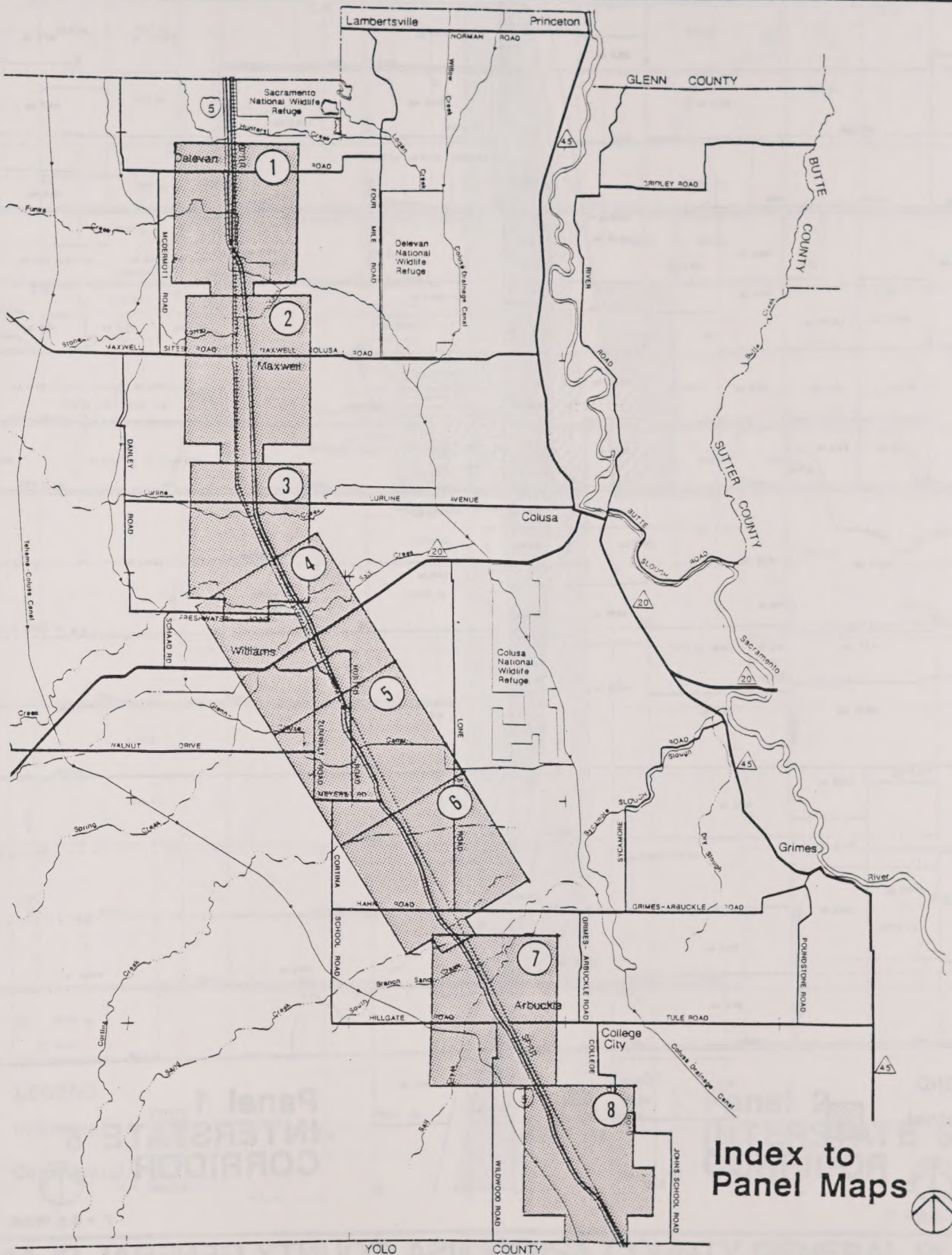
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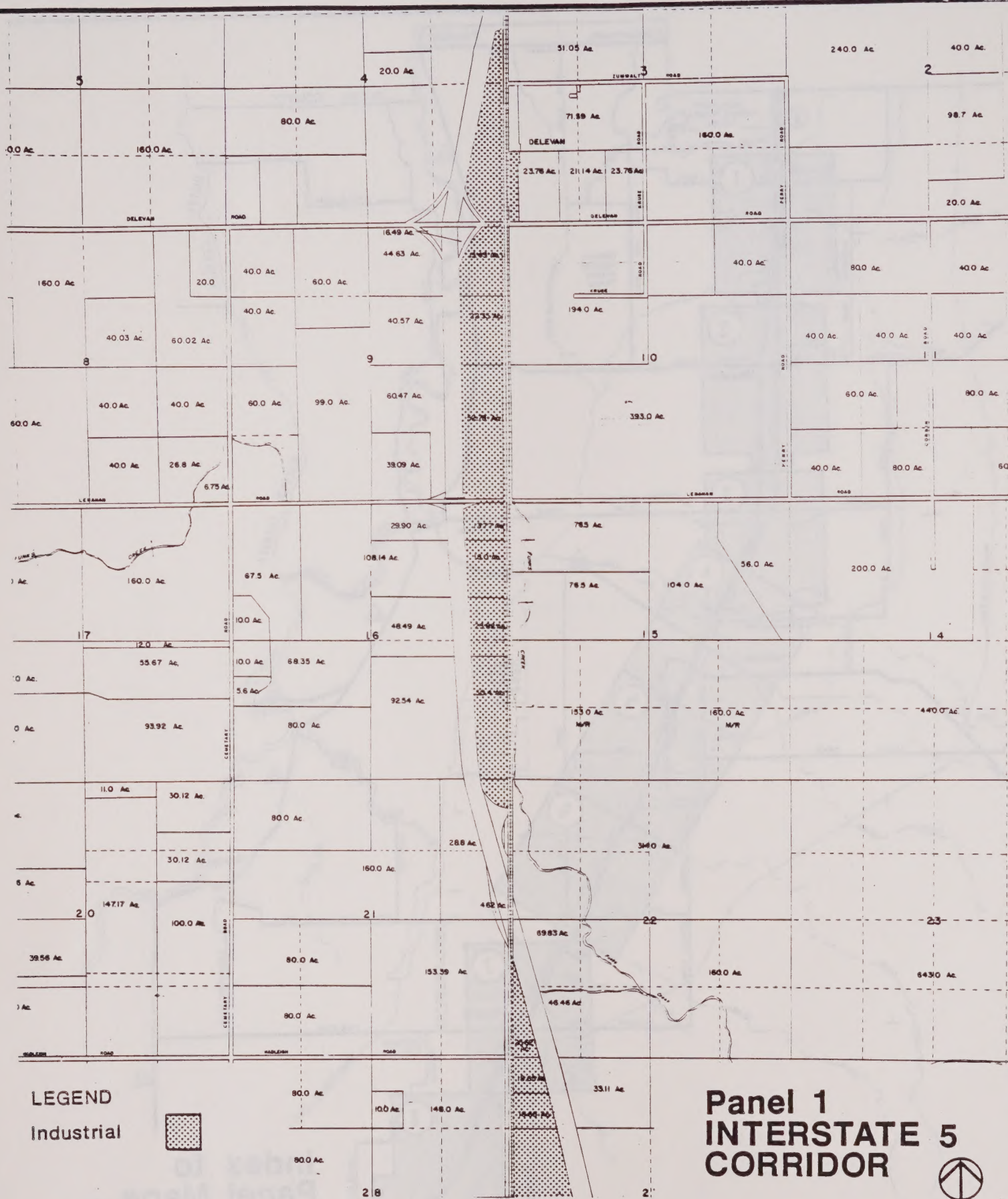
APPENDIX C
INTERSTATE 5 CORRIDOR PANEL MAPS

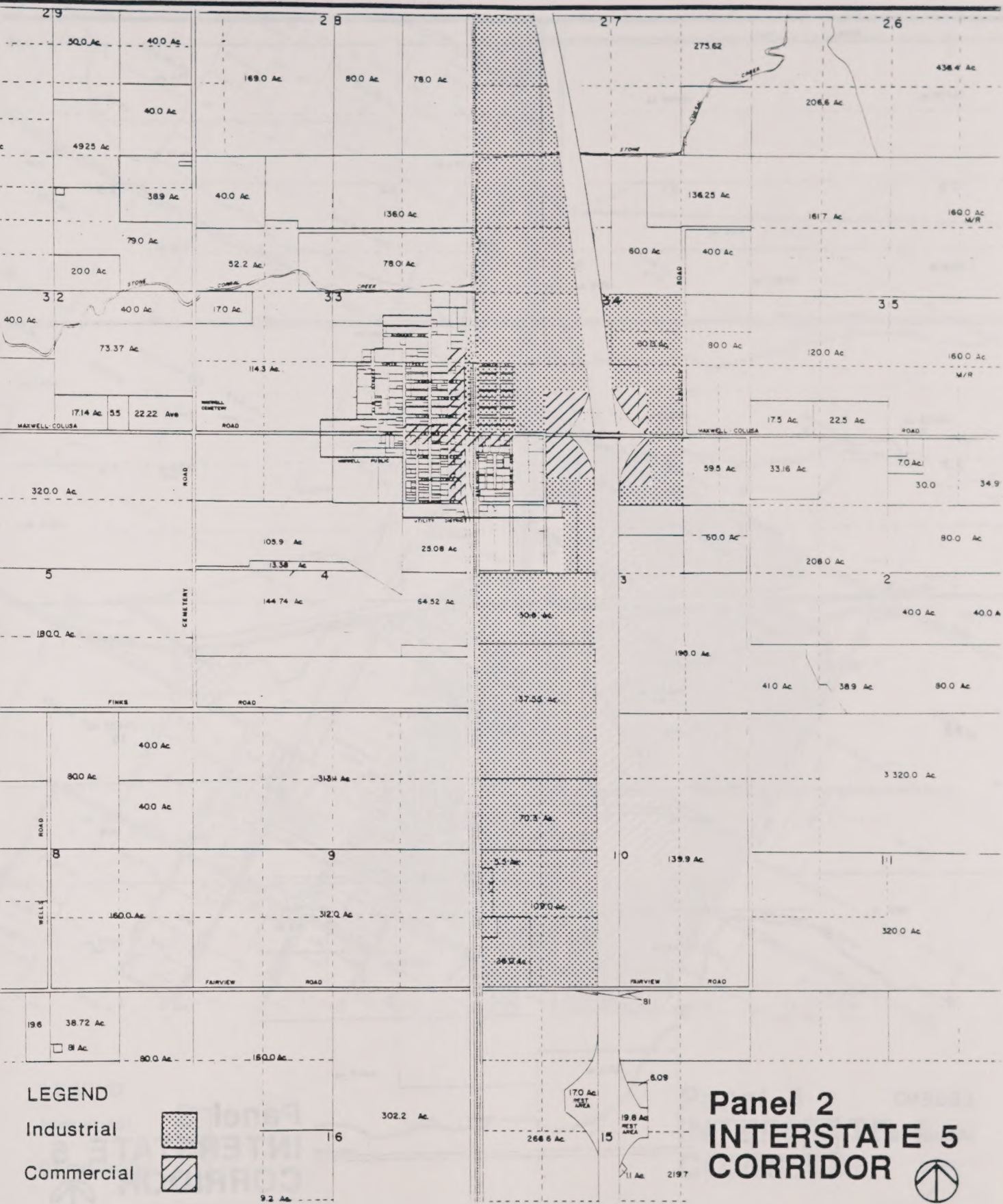
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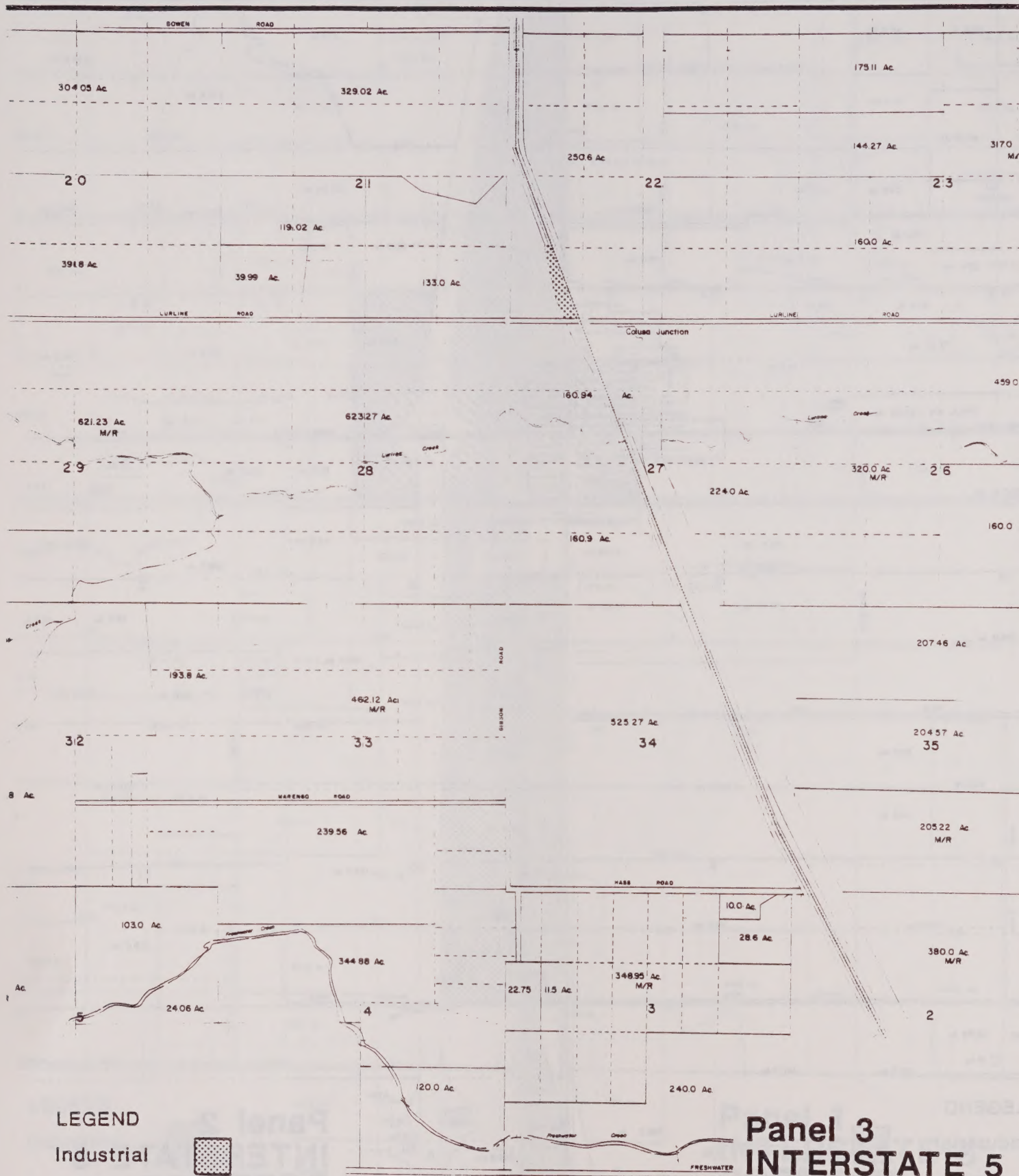


Index to
Panel Maps









Panel 3 INTERSTATE 5 CORRIDOR



1" = 0.5 mile

COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates



LEGEND

Industrial



Commercial



Panel 4 INTERSTATE 5 CORRIDOR



1" = 0.5 miles

COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates



LEGEND

Industrial



Commercial



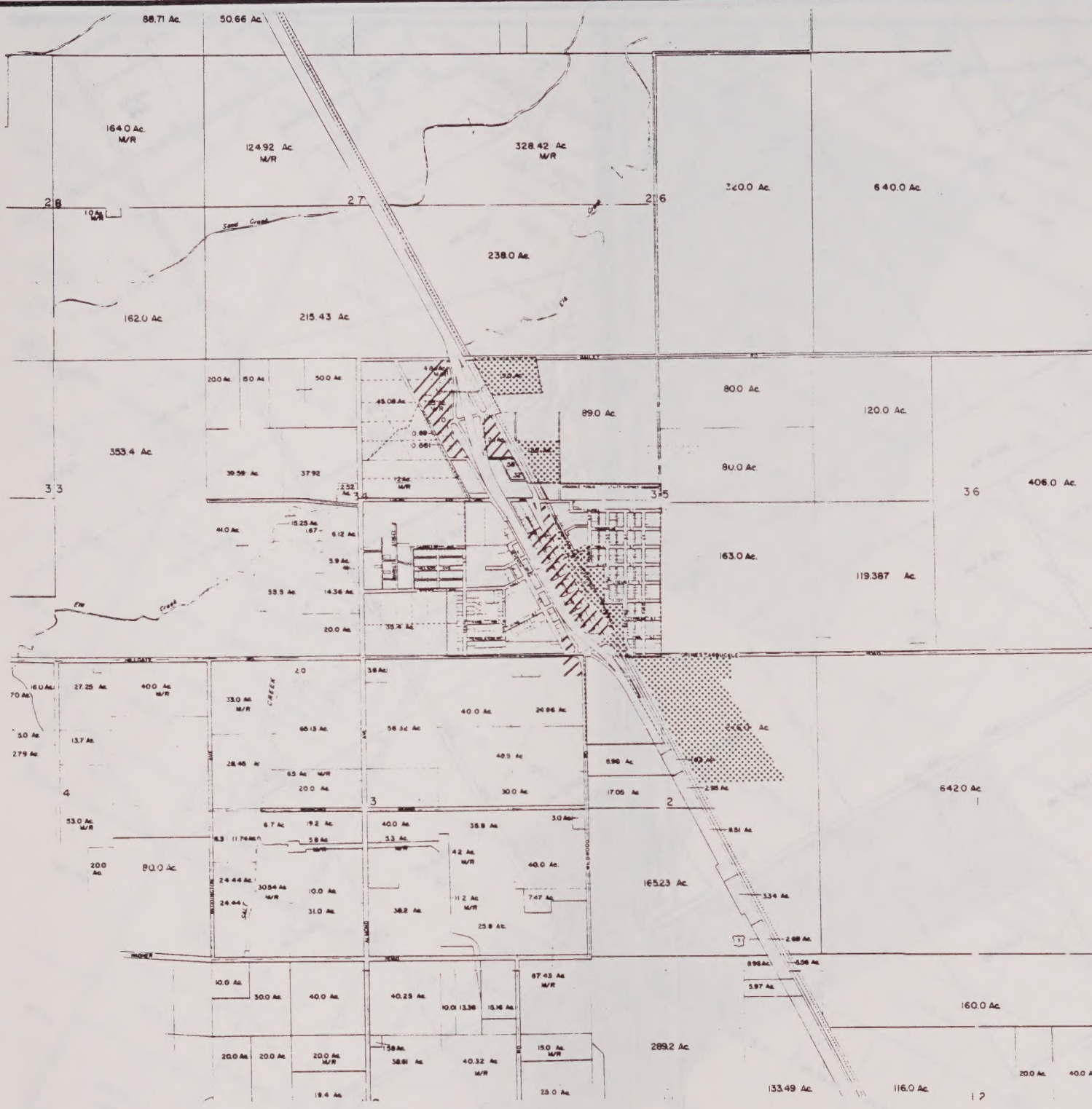
Panel 5 INTERSTATE 5 CORRIDOR



1" = 0.5 mi

COLUSA COUNTY GENERAL PLAN

Sedway Cooke Associates



LEGEND

Industrial



Commercial

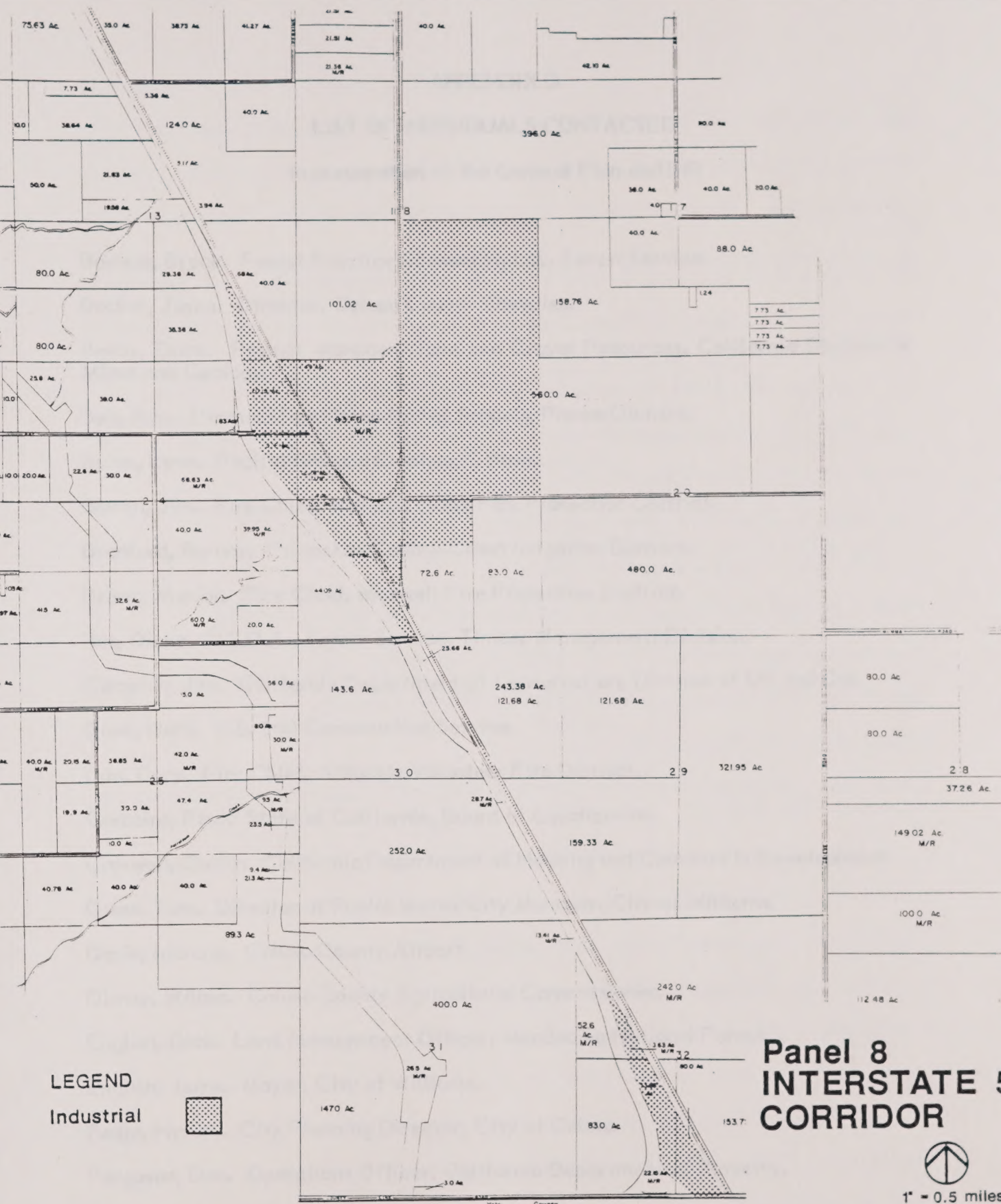


Panel 7 INTERSTATE 5 CORRIDOR



1" = 0.5 miles

COLUSA COUNTY GENERAL PLAN
Sedway Cooke Associates



LEGEND
Industrial



Panel 8 INTERSTATE 5 CORRIDOR



1" = 0.5 miles

APPENDIX D

LIST OF INDIVIDUALS CONTACTED

in preparation of the General Plan and EIR

Bayless, Bruce. Forest Practice Economist, U.S. Forest Service.

Becker, Joyce. Director, Colusa County Libraries.

Beeby, Dave. Project Manager, Sand and Gravel Resources, California Division of Mines and Geology.

Bell, Ray. (former) Superintendent of Schools, Pierce District.

Bolan, Lynn. Pacific Gas and Electric, Colusa.

Bowen, Jim. Fire Chief, Williams Rural Fire Protection District.

Bradford, Bernoy. Princeton-Codora-Glenn Irrigation District.

Brown, Marion. Fire Chief, Maxwell Fire Protection District.

Bus, Diana. U.S.D.A., Forest Service, Timber Management Division.

Campion, Jim. California Department of Conservation, Division of Oil and Gas.

Cook, Herb. U.S. Soil Conservation Service.

Cox, Gary. Fire Chief, Arbuckle Volunteer Fire District.

Crebbins, Paul. State of California, Board of Equalization.

Creswell, Cathy. California Department of Housing and Community Development.

Cross, Tom. Director of Public Works/City Manager, City of Williams.

Davis, Idarene. Colusa County Airport.

Disney, Wilbur. Colusa County Agricultural Commissioner.

English, Dick. Land Management Officer, Mendocino National Forest.

English, Jerry. Mayor, City of Williams.

Fedje, Hyrum. City Planning Director, City of Colusa.

Ferguson, Don. Operations Officer, California Department of Forestry.

Giachino, Jim. U.S. Forest Service.

Gibbs, Roger. Director, Colusa County Fair.

Gonzales, Dallas. U.S. Bureau of Reclamation.

Graham, Ernie. Stony Creek Unified School District.

Gustafson, Don. Manager, Special Projects, Homestake Mining Company, Sparks, Nevada.

Haas, Peter. Area Engineer, Central Valley Regional Water Quality Control Board.

Habel, Rod. Geothermal Officer, California Department of Conservation, Division of Oil and Gas.

Hamilton, Michael. State of California Lands Commission, Oil and Gas Leasing.

Heim, Mary. California Department of Finance, Population Research Unit.

Helms, Bill. California Department of Water Resources.

Henrickson, Harliss. Fire Chief, Indian Valley Fire Protection District.

Herkert, Bob. Colusa County Farm Bureau.

Hindbaugh, Earline. Colusa County Department of Planning and Building.

Holeman, George. Retired, Former Director of Planning.

Jay, Hank. Chief Train Dispatcher, Southern Pacific Company.

Krauss, Ray. Homestake Mining Company.

Kroll, Don. Division of Housing Statistics, California Department of Housing and Community Development.

Krug, Janet. Director, Environmental Health Department.

Lauden, Ron. Manager, City of Colusa water and sewer systems.

Lloyd, Ralph. California Division of Mines and Geology.

Lux, Ken. Lux Engineering, Colusa.

Lynch, Jim. California Department of Forestry.

Lynch, Shirley. Colusa County Transit.

Marshall, Scott. Colusa County Office of Emergency Services.

McGill, Bob. California Dept. of Water Resources, Northern District.

McWatters, Bob. Colusa County Sheriff.

Mendes, Gene. Princeton Rural Fire Protection District.

Murphy, Will. County Counsel, Colusa County.

O'Connell, Dan. Colusa County Assessor.

Olivares, Arthur. Grand Island Fire Protection District.

Pearson, Charles. Century 21 Pearson Realty.

Pearson, Glenn. Associate Engineering Geologist, California Department of Water Resources.

Peterson, John. CP National, Colusa.

Plunkett, Gary. Director, Colusa County Department of Public Works.

Pommerenck, Keith. California Department of Conservation.

Ryan, Nancy. Colusa County Chamber of Commerce.

Saltzen, JoAn. Colusa County Superintendent of Schools.

Saucedo, George. Associate Geologist, California Division of Mines and Geology.

Sausser, Jack. City Administrator, City of Williams.

Scheimer, Jim. Manager, Arubuckle Public Utility District.

Schisler, Bob. Pacific Gas and Electric, Colusa.

Serr, Gene. California Department of Water Resources.

Showers, Dave. California Department of Fish and Game.

Smith, Brian. Caltrans.

Smith, Cynthia. Caltrans.

Smith, Kenneth. Director, Colusa County Community Hospital.

Stegall, Caren. Colusa County Department of Planning and Building.

Sydnor, Bob. District Geologist, California Division of Mines and Geology.

Terry, Walter. California Department of Water Resources.

Totman, Millard. Director of Public Works, City of Colusa.

VonKliest, Michael. Princeton Joint Unified School District.

Warren, Dick. Maxwell Public Utility District.

Walker, Stanley M. Director, Colusa County Department of Planning and Building.

Weston, Pat. Caltrans.

Winters, Jeff. Fire Chief, Colusa Rural Fire District.

Woodring, Bob. PG & E, Marysville.

Yedon, Robert. Central Valley Regional Water Quality Control Board.

Note: In addition to the persons listed here, members of the General Plan Committee were contacted throughout the planning program.

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